DOCUMENT RESUME

ED 350 304 SP 034 195

AUTHOR	Clift, Renee T., Ed.; Evertson, Carolyn M., Ed.
TITLE	Focal Points: Qualitative Inquiries into Teaching and Teacher Education. Teacher Education Monograph No. 12.
INSTITUTION	ERIC Clearinghouse on Teacher Education, Washington, D.C.
SPONS AGENCY	Office of Educational Research and Improvement (ED), Washington, DC.
REPORT NO	ISBN-0-89333-085-X
PUB DATE	Mar 92
CONTRACT	RI88062015
NOTE	131p.
AVAILABLE FROM	ERIC Clearinghouse on Teacher Education, One Dupont Circle, N.W., Suite 610, Washington, DC 20036-1186 ($20 plus $2.50 postage and handling).
PUB TYPE	Information Analyses - ERIC Clearinghouse Products (071) -- Collected Works - General (020)
EDRS PRICE	MF01/PC06 Plus Postage.
DESCRIPTORS	*Action Research; *Case Studies; Classroom Environment; Curriculum Research; *Educational Change; Education Courses; Elementary School Mathematics; Elementary Secondary Education; Higher Education; Inservice Teacher Education; Participant Observation; Preservice Teacher Education; *Teacher Educators; *Teaching (Occupation); Theory Practice Relationship; Writing Instruction

ABSTRACT

The focus of this monograph is on the distinctions between questions addressed in research on teaching and issues of concern in teacher education and on the interplay of curricular, contextual, and pedagogical issues in both public schools and university settings. The publication is organized into seven chapters: (1) "Action Research and the Work of Teachers" (Susan E. Noffke); (2) "Developing Reflective Practice in Initial Teacher Education Courses: The Place of Reading and Writing" (Peter Lucas and Jean Rudduck); (3) "Personal Perspectives and Learning To Teach Writing" (Mary Louise Gomez and Trish L. Stoddard); (4) "Mathematics in Elementary School Tasks" (Ralph T. Putnam); (5) "Learning in Classroom Settings: Making or Breaking a Culture" (Elaine C. Collins and Judith L. Green); (6) "Teacher Culture from the Inside: A Case Study of Change from the Perspective of Active Participant Observer" (Joyce Henstrand-May); and (7) "Moving Pictures, Multiple Frames" (Renee T. Clift and Carolyn M. Evertson). (References are appended to chapters.) (LL)

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TEACHER • EDUCATION • MONOGRAPH • NO. 12

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FOCAL POINTS:

Qualitative Inquiries into Teaching and Teacher Education

Renee T. Clift
Carolyn M. Evertson
Editors

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TEACHER EDUCATION MONOGRAPH NO. 12

FOCAL POINTS: Qualitative Inquiries into Teaching and Teacher Education

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Published by

ERIC Clearinghouse on Teacher Education
One Dupont Circle, NW, Suite 610
Washington, DC 20036-1186

March 1992

CITE AS:
Clift, R. T., & Evertson, C. M. (Eds.). (1992). *Focal points: Qualitative inquiries into teaching and teacher education.* (Teacher Education Monograph: No. 12). Washington, DC: ERIC Clearinghouse on Teacher Education.

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One Dupont Circle, NW, Suite 610
Washington, DC 20036-1186
(202) 293-2450

Single copy--$20 (add $2.50 postage and handling)

Library of Congress Catalog Card Number: 91-78264

ISBN: 0-89333-085-X

This publication was prepared with funding from the Office of Educational Research and Improvement, U.S. Department of Education under contract number RI 88062015. The opinions expressed in this report do not necessarily reflect the positions or policies of OERI or DOE.

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Introduction

The distinction between questions addressed in research on teaching and issues of concern in teacher education is not always clear. We view the following chapters as an example of researchers' attempts to deal with the complex interplay of curricular, contextual, and pedagogical issues in both public school and university settings. As editors we were very impressed with the questions raised within the studies. These questions caused us to reflect on similar, but unarticulated ideas that we have encountered in our own work, past and present. Reading through these chapters, discussing their relationships to one another, and making decisions about the sequence of presentation led us to see this monograph as an illustration of researchers seeking to define a new way of understanding their field—and themselves.

The first chapter in the monograph reminds us that this struggle has a long history, although it has been articulated in different ways. Susan Noffke's review of programs in action research from the 1940s to the present day focuses on how these programs conceive of teachers' work and the workplace conditions necessary to encourage action research. In her discussion of the connections between research by teachers and teacher learning, she notes that even those who belong to the action research "family" disagree on the nature of those connections in important ways. She concludes with the recommendation that further work in this area must take the feminist perspective into account, a topic that, while most salient, has not been addressed by the earlier discussions.

Peter Lucas and Jean Rudduck point out that teacher educators are also teachers and that they too can become involved in action research. The second chapter is an example of one teacher educator trying to understand his students and move them toward more reflective thinking. This case is also illustrative of the difficulties one encounters when trying to implement a curriculum that runs counter to established patterns of thought and behavior. The authors conclude that teacher education may have as powerful an influence on university faculty members' learning as it has on students.

Mary Gomez and Trish Stoddard have not engaged in action research, but they, like Lucas and Rudduck, document the powerful influence of one's prior beliefs and experiences. Their eight case studies of English teachers learning to teach writing through traditional and alternative routes raise two disturbing questions for those of us who advocate particular teaching methods based on principles derived from practice and research. Can teacher education make an impact on teaching candidates? If not, is preservice teacher education even

necessary? We would add one additional question. Would the professors and program designers in the Gomez and Stoddard cases benefit from a systematic analysis of their program in the ways that Lucas and Rudduck seem to have benefitted from theirs?

The two case studies that Ralph Putnam presents illustrate the classroom dilemmas, including curricular dilemmas, that teachers of mathematics face as they interact with students who do not immediately grasp mathematics concepts. In one case the teacher is successful in making the students' thinking visible; a second teacher is not. The former permits students to discuss their own reasoning, which Putnam argues is important to shift teaching practice away from isolated computation toward mathematical understanding. Unlike Lucas and Rudduck, Putnam is not engaged in action research. His chapter introduces the importance of research methods that permit the researcher to examine the complexity of classroom instruction. In Putnam's cases this focus allows us to examine the relationships between classroom tasks, teachers' knowledge, and students' understanding of mathematics.

Elaine Collins and Judith Green also look at classroom activities, but from an interactive sociolinguistic perspective. They explore theory-method relationships involved in the study of classroom cultures and learning in the cultural context of the classroom. To make visible the social and cultural understandings of the participants as they are constructed over time, Collins and Green focus on the entry of substitute teachers (strangers to the culture) into the stream of classroom life. They use this device as a means for exploring the cultural understandings and the definitions of learning that have been constructed by students and their teachers within and across settings. The different frames of reference of the substitute teachers and the students (natives in the classroom culture) highlight the factors that can support and/or constrain learning.

While Collins and Green place the classroom culture in the foreground against the school background, Joyce Henstrand-May brings the school setting sharply into focus. In her participant observational study she documents the disparity between changes sought by a principal and by teachers during one academic year. If it were possible to organize these manuscripts in a circle, we would see that the workplace conditions discussed in the first chapter are analyzed in detail by Henstrand-May's documentation of the disparity between the principal's ideas about success for students in school and the teachers' concerns about the unintended side effects of his reforms. Although she was not engaged in action research, Henstrand-May's chapter raises a problem Noffke alludes to in her discussion of teacher power and autonomy. What happens when the teachers' goals run counter to those of the administration?

At the beginning of this introduction we noted that at times questions for research on teaching can be indistinguishable from issues in teacher education. While each chapter in this monograph can stand alone, we invite you to read them as a set and to ask yourself if issues related to teaching and teacher education can be separated from issues of curriculum, administration, and school improvement. We also challenge you to think about research paradigms that are broad enough to encompass syntheses across these areas, but focused enough to permit making sense of the complexity. In our view, this challenge is one which the authors included here and others must work through as we strive to develop theoretical frames for the future study of teaching and teacher education.

Renee T. Clift and Carolyn M. Evertson

1

Action Research and the Work of Teachers*

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Action research is frequently discussed in relation to teacher improvement and teacher education, with scarce acknowledgement of the diverse meanings of the term as it relates to the setting and nature of teachers' work. Members of the action research family have very different views of teaching and opinions of the role of action research. In this paper I discuss the assumptions about teachers' work and working conditions evident in various practices of action research in education. In the first section I identify issues that emerge from an analysis of documents from the period of action research in the post-World War II era. These are elaborated in the second section, beginning with the writings of Lawrence Stenhouse, an influential figure in the more recent development of action research, and concluding with a discussion of projects conducted in Australia, the United Kingdom, and in the United States in the late 1970s and early 1980s. In the final section I discuss the potential directions for action research, arguing that concepts from feminist theory could play an important role in expanding our analysis.

Teacher as Creative Scientist: Early Action Research

This section, outlining the works of the Horace Mann-Lincoln Institute in the late 1940s and of Stephen Corey, Hilda Taba, and Abraham Shumsky in the 1950s, identifies definitions of teachers' work that were seen as compatible with particular versions of action research. Discussions of the workplace of teaching often centered on issues of authority,

*This paper summarizes the work presented at the Annual Meeting of the American Educational Research Association, Boston, 1990. The full text is in Robert Stevenson & Susan E. Noffke (Eds.). (1990). *Action Research and Teacher Education: International Perspectives.* Buffalo: Buffalo Research Institute on Education for Teaching.

autonomy, and resistance to change. Other recurrent themes were the need for coordination and communication, sometimes seen as requiring consensus, and the need to address the material conditions of teachers' work, particularly the demands for time and support.

Horace Mann-Lincoln: The "Democratic" Teacher

In the early efforts of the Horace Mann-Lincoln Institute at Teachers College in the 1940s and '50s, there is a clear vision of the teacher as curriculum developer, potential researcher, and model of the "democratic person." Teaching was seen as a dynamic process, embodying the principles of democracy, rather than as a static set of specific competencies. While Gordon Mackenzie (1947), a staff member, noted that there was "little agreement as to what constitutes teaching" (p. 361), a clear image, nonetheless, emerges from the writings. First, the teacher was the "key person in any program for curriculum development." The staff of the institute noted: "No matter what may be the overall structure designed to improve the curriculum, the curriculum happens in the classroom. What happens is largely determined by the teacher" (Horace Mann-Lincoln Staff, 1948, p. 344). Second, there was the view not only that "every teacher is a potential researcher" (Horace Mann-Lincoln Staff, 1948, p. 310), but that engaging in group research was a "must for good teaching" (Horace Mann-Lincoln Study Group, 1948, p. 113). In fact, teaching and research were almost seen as the same thing (Caswell, 1950; Rucker & Pittman, 1949).

To one member of the Horace Mann-Lincoln group (Hopkins, 1950), the vision of the teacher included action research as an ongoing process in teaching, plus the creation of a democratic classroom, through engaging children in action research. Characteristics of the democratic person were thoughtfulness and creativity, closely related to aspects of researcher's work, thereby creating a close connection between science and democracy (Goodson, 1946, p. 42). This connection between a form of democratic pedagogy and action research by teachers, will be seen again in later action research work.

The need to change teachers, in order to accomplish this vision, was accompanied by attention to the administrative and material conditions which would support such change. The staff's interest in stimulating teachers' "self-growth in their professional conceptions and attitudes" (Goodson, 1946, p. 46) also led them to see several "administrative conditions necessary to successful field experimentation" (p. 50). The first of these, dealing with issues of authority and resistance to change, linked science to a cooperative group dynamic that would structure the relations of power and control in schools. A balance between local autonomy and strong central control of a state education department or

a federal agency was to be accomplished through cooperation and through the "method of science" (p. 51). The scientific method can be seen here as a way to use the "neutrality" of science to depoliticize the debate over the control of education.

Resistance to change was seen in both school personnel and in public attitudes. Noting that teachers and administrators were, in general, not prepared to be part of experimentation, there was an emphasis on the development of "a high order of security" to enable "objective analysis and self-criticism" (Goodson, 1946, p. 52). School personnel were to be involved in the exploration of the group dynamics that made change possible. The public view was to be addressed through a "public relations" program (p. 51). Coordination and communication would focus on consensus in an attempt to replace the individual autonomy of teachers with a socially determined agreement (p. 54). As with the work of Lewin and Lippitt on which it was based (see Noffke, 1989), the view is of a form of democracy based on the authority of science.

The material conditions of teachers' work and their impact on the development of collaborative action research projects also received attention. Schools needed to support the research process by developing policies which recognized its importance and supported it (Horace Mann-Lincoln Staff, 1948, pp. 309-310). Calls for autonomy and support, together with the insistence that "[t]eachers must have time to think together if group action in research is to be made possible" (Rucker & Pittman, 1949, p. 165), were to become the most frequently heard conditions for the success of subsequent action research programs. To see how or if these ideals were approached, a closer look at Corey's work with the Horace Mann-Lincoln Institute is needed.

The Teacher as Educational Investigator: Corey's Contribution

Stephen Corey's works demonstrate a great understanding of and a sensitivity toward teachers and their work lives. Building from his idea that "action research represents little more than a refinement of a process every teacher goes through as he tries to improve," Corey (1953b, pp. 94-95) emphasized his own faith that the majority of teachers engage in trying out new ideas and gathering some evidence about their usefulness. He advocated a more rigorous procedure basing judgments on careful observations of children's behavior and developing "teaching-learning situations to meet these needs" based on understanding both the culture and the way children learn, and testing the effects of their teaching against "dependable and appropriate evidence" (1954b, p. 208). The rational vision was to be complemented by the "creative" side of

teaching, the search for "promising new ideas" (1950, p. 131), but there was no conscious linkage of science to democracy.

A significant aspect to the action research projects done during this time was the exploration of the meaning of "democracy" in education, as exemplified by the Basic Living Project. Self-directed activities were common topics for exploration. To encourage student self-direction, a particular vision of the teacher's role was deemed necessary. The teachers expressed a strong sense that their role was one of friend, guide, and resource person ("Cooperative Research," 1950, p. 443). The students valued similar characteristics, but also emphasized qualities of care and nurturance, to "keep class under control, be a friend to all,...and be understanding and like a mother to everyone" (p. 463). While the links between a particular form of progressive education and this vision of the role of the teacher as facilitator are clear, one other factor stands out—a strong sense that the nurturing of trust and safety ensured by the "teacher-mother" was vital.

Almost all of Corey's works address the workplace conditions necessary to the successful implementation of action research programs, including the issues of autonomy and involvement in decisions about research focus and about curriculum. Such participation would require changes in the structure of teacher's work. Teachers needed to *know* rather than guess about their effectiveness (Corey, 1954b, p. 211), but they also needed to feel trust, safety, and less alone in their efforts. The larger social context, "when public inquiry into public education [was] common" (Corey, 1953a, p. 23), seems also to have played a role in Corey's work. Most salient is the feeling of deep commitment to creating educational research that was of direct benefit to teachers and children. He sought a role for the teacher beyond that of "research consumer" (p. 22).

Resolving problems related to teachers' use of action research focused on two aspects: the need for structural changes in the teachers' work and the need for personal relationships among those involved in such changes. Time during the school day for planning, data collection and interpretation, and resource discovery or development was essential (1954a, p. 80). Corey emphasized that the resolution of this problem rested in administrative support and restructuring, not in having teachers add something to their work. He felt strongly that "when teachers are expected to do all these extras on their own time, while carrying a teaching load originally designed to consume all of their energy, little happens" (Corey, 1953b, p. 102).

He also perceived a need to build relationships among the researchers through "free discussions" in "informal, relaxed situations" (Corey, 1950, p. 131). Establishing personal relationships beyond that of sup-

portive fellow professional were important to creating the safe atmosphere necessary to successful action research work. The emphasis on the importance of personal knowledge, trust, respect, and understanding in relationships within action research groups (see Corey, 1953b, p. 91-92) contrasts with more recent discussions of developing professional collegiality (e.g. Tikunoff, Ward, & Griffin, 1979, pp. 412-414).

From Teacher-Researcher to Teacher-Learner: Taba and Shumsky

Action research efforts after Corey were increasingly defined as a part of inservice teacher education (Wiles, 1953) or as techniques in supervising relatively inexperienced teachers (Taba, Noel, & Marsh, 1955). Action research served to identify and solve educational problems, to address problems in teaching through re-education (Taba & Noel, 1957) or continued professional development (Shumsky, 1958). For both Hilda Taba and Abraham Shumsky, there was a recognition of the teacher as a kind of investigator, but one who focused more on his or her own improvement or self-development, without the group effort guided by a social vision.

Hilda Taba emphasized making teachers more productive by changing their perspective, and initiating them into research procedures (Taba & Noel, 1957). A teacher was viewed as an explorer of either children's learning problems or his/her own individual practices, using scientific methods. Action research served a larger vision of tying science to professionalism instead of democracy. Although Taba's writings show a clear concern with how the schools might address social problems, for example "racial prejudice" (Taba, 1957), the larger social vision guiding the action research work is unclear.

Abraham Shumsky, who began his action research work at Teachers' College, focused on the teacher as a self-aware individual. Teachers became more aware of themselves as seekers of personal, rather than social significance in their work (Shumsky, 1958). This transformed the role of the teacher from that of a researcher, participating in the social production of knowledge, to that of individual learner investigating her/his own practice.

This change emphasizes the close relationship between teachers' personal identities and their actions in classrooms. It also alters the role of the teacher as knowledge producer. Shumsky (1959) rejected a focus on the production of knowledge by teachers, unless it was of "meaningful personal significance to the learner" (p. 197). This emphasis, in turn, affected the methods for evaluating action research, stressing not its findings, but its "educative process" (p. 196). This learning process

required a consultant to the action research process (Shumsky & Mukerji, 1962, p. 86).

The transformation of the teacher-researcher to the teacher-learner, seen through the works of Taba and Shumsky, has two important aspects. As with the use of the "method of science" to resolve issues of control and autonomy in education in general, the vision of teacher as professional or learner of professional skills (including those of research) serves to depoliticize her/his actions. Science was no longer the means to democracy but rather a "neutral" process. Second, the teacher is committed to the classroom and self-improvement as opposed to social change, whether through the expansions of their professional competencies or through the resolution of their "inner conflicts." Clearly, Taba and Shumsky possessed social visions and analyses which guided their work, but these were not connected to their action research work with teachers.

Taba recognized constraints on the professional autonomy she sought for teachers. One was the traditional view of the role of the teacher as one "in the role of 'knowing,' of 'having the answers'" (Taba & Noel, 1957, p. 20). Another involved changes in the school environment necessary in order for action research to take place, especially altering an authoritarian school climate. There is a sense, too, in which Taba saw action research as connected to creating a more democratic workplace. While working with a local California school district, she engaged the administrators in the process of supporting teachers' problem solving. She reported a trend toward greater reliance on democracy and science in administrators' views of authority, based on "more objective and dynamic leadership techniques" (Taba, Noel, & Marsh, 1955, p. 457).

Concern with teachers' insecurities and uncertainties led Shumsky to focus on the internal aspects of the teachers and their classrooms, rather than external factors of their workplaces. He stressed more psychological rewards as opposed to changes in workplace conditions. He did not deal with external constraints on action research, such as time or autonomy. Rather, he looked to notions of inner conflict during transitions from old to new ideas about teaching.

Two key themes characterize early action research efforts. The first involved changing the definition of the teacher's work from one of social and political actor to one of individual professional struggling for self-improvement. The second, the workplace that would facilitate action research, was discussed in terms of issues of authority, resistances to change, communication, and material conditions. The relative importance of these issues varied.

The Teacher as Extended Professional

Lawrence Stenhouse's work represents the most fully elaborated view of a renewed interest in action research during the past two decades. I will summarize his influence, which is especially noticeable in the United Kingdom and in Australia. This will be followed by an analysis of the images of teachers and their work present in the work of the Ford Teaching Project, the Interactive Research and Development projects, and the Action Research in Curriculum work at Deakin University.

Lawrence Stenhouse

Stenhouse's (1975) description of action research is couched in the language of experimentation: "The idea is that of an educational science in which each classroom is a laboratory, each teacher a member of the scientific community" (p. 142). He saw a critical quality in teachers—the "capacity for autonomous professional self-development through systematic self-study, through the study of the work of other teachers and through the testing of ideas by classroom research procedures" (p. 144). Yet Stenhouse's teacher was not only a practitioner of the scientific skills of teaching, he or she was also a possessor of the knowledge of the wider community.

> A teacher is a man of learning skilled in teaching. He is qualified by virtue of his education, and his training. He does not teach what he alone knows, letting his pupils in on secrets. On the contrary, his task is to help his pupils gain entry into a commonwealth of knowledge and skills, to hand on to them something which others already possess. (1975, p. 6)

In talking about the "personality" of the teacher, Stenhouse commented that "almost all schools and teachers are more authoritarian than they realize" (Elliott & Adelman, 1975, p. 2). This comment is related to his position that the "teacher as researcher" was most likely to work in an open classroom (Stenhouse, 1975, p. 155).

As in the earlier action research work, the teachers' workplaces and the conditions for change play significant roles in Stenhouse's writings. He regarded the British context for educational work as quite distinct from that of the United States, rejecting attempts to devise teacher-proof curricula. Instead, he emphasized the autonomy of the British workplace.

> In the United States the curriculum appears to be seen as a directive placed upon the teachers. Therefore, the question seems to be: "Will it work?" In Britain, the curriculum is seen more as a tool in the hands of the teacher. The questions are: "Can this curriculum offer something worthwhile?" and "Am I as a teacher likely to be able to get the benefits out of it?" Since the teacher is to a great extent free to choose the

> curriculum, the evaluation must be addressed to him. And he trusts teacher judgment, which has more meaning to him than test results. (1975, p. 105)

While the difference in the amount of teacher autonomy at the time is debatable, the difference in the questions asked in the two contexts seems to hold true. Stenhouse defined curriculum as an outline of the teaching that takes place within a set of principles designed to enable teachers to use their own judgment to enact their responsibility for the education of the young (p. 24).

Stenhouse saw constraints on change as both psychological—the personal threat involved in studying one's own practice—and social—the limited power of the individual as opposed to the coordinated group. He noted the need for external support, especially time and other resources, but he focused primarily on contrast between the need for teacher development and the issue of classroom order. Stenhouse analyzed the overall issue in terms of social theory. Problems of order were normal occurrences that had to be seen in terms of their relationships with curriculum, pedagogy, and the larger social context, not as distinct research topics. They also operated as constraints on innovation.

Self-Monitoring, Professionalism, and Critical Rationality

The Ford Teaching Project. The Ford Teaching Project was based in the work of the Humanities Curriculum Project, directed by Lawrence Stenhouse. Both projects involved supporting teacher efforts to implement teaching strategies around principles which would "give pupils greater independence from the teacher as a source of knowledge, and more autonomy over his own learning" (Elliott & Adelman, 1973, p. 8). The teachers were seen as self-monitoring through reflection and analysis of practice in relation to that set of principles. The goal was to achieve the maximum congruency between aspirations and practices, often with the help of other teachers.

Teachers worked as facilitators or chairs of discussions and resources for student discoveries or inquiries. Teaching was accepted as a dynamic process of working toward desirable ends, rather than as a set of uniform, standardized practices. Although not explicitly "democratic" in its language, there was a clear sense that developing the capacity for autonomous action for both teachers and children was a major goal of the project (Iredale, 1975). Elliott and Adelman (1975) saw this particular pedagogical innovation as one which "pose[d] fundamental questions about the relationship between authority and freedom in education" (p. 1).

The concept of self-monitoring played an important role in the Ford Project. Through the careful monitoring of their own actions and

through student accounts, teachers could become more aware of both their intended and unintended effects and work toward narrowing the gap between their principles and their achievement (Elliott & Adelman, 1973). Such an awareness was also seen as a key element in furthering the teacher's "power to perform his role autonomously and responsibly" (p. 10). Autonomy relied on conditions of awareness of future actions, of a wide range of possibilities, and of the potential relationship between the teacher and the situation, rather than on patterns of authority in education. Elliott and Adelman concluded:

> If the power to act autonomously is at least to some extent a necessary condition for teaching to take place, then there is a sense in which a concern for a truer understanding of situation and self which not improperly could be described as a research attitude—is a latent if not manifest aspect of the teacher's role. (1973, p. 11)

Consideration of workplace issues was partly framed in terms of constraints on realizing the new role for teachers. There was a focus on the psychological obstacles of action research, including such factors as self-esteem and the relationship between personal identity and professional role. There was also a good deal of time devoted to work on "[c]reating the beginnings of a shared tradition of thinking about teaching" (Elliott & Adelman, 1973, p. 12). While consensus played a role, there was a difference between this and the early United States work:

> We hoped that our teachers would respect differences of view and not seek a false security in attempts to pressurize each other into an agreed pre-specification which if successful would only in the long run stifle the autonomy of the individuals involved. We see it as our responsibility to ensure that the autonomy of individuals is not sacrificed by a desire for consensus, and that consensus in practical awareness develops in a context where practical thought is not constricted. (Elliott & Adelman, 1973, p. 17)

Some additional concerns included the institutional structures that surround teaching. References to money and status and their connections to administrative roles were explored as well as the relationship between valuing oneself as a potential researcher and the experiencing of "tension between their accountability as educators for process-values and their accountability to society for knowledge outcomes" (Elliott, 1976-1977).

It is noteworthy that the reports, especially those by the teachers themselves, point toward the need to see work and workplace issues in action research as a subset of the larger social context. Some booklets produced by project teachers contain fully developed pictures of the workplace with an effort to focus on identifying the "conditions necessary for establishing and implementing research-based Inquiry/Discovery teaching" (Cooper et al., 1975, p. 2). The teachers, in contrast to other

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writers, emphasized the need to assess adequately the environment *before* beginning a project, including "an assessment of the institution and its personnel to ensure that, as far as possible, such teaching methods can be implemented successfully" (p. 2). The preparations for research, then, included looking into the institutional environment to ensure that adequate authority, communication, and material support were available.

These teachers recognized that the analysis of one's own lessons, including the identification of inconsistencies between ideals and practices, could challenge a teacher's training and beliefs and cause a loss in security (Cooper et al., 1975, p. 5), but also noted the possibility that other people, perhaps due to ignorance or fear, could exert pressure. Project teachers could feel threatened, particularly by the reaction of the pupils. Because the teaching might not conform to their "preconceived ideas of what school should be about," students might react with "a lack of support for, or even antagonism towards, the teacher" (pp. 5-6). An important extension to the teachers' analysis of constraints, beyond those recognizable as common to many earlier action research projects, is the inclusion of constraints imposed by other adults including parents and officials and inspectors from the Local Education Authority, and by selection procedures, especially examinations (Cooper et al., 1975, p. 6; Iredale, 1975, p. 21). This attention to the consideration of structures outside the classroom and school context marks an important new starting point for the discussion of workplace issues in action research.

The Interactive Research and Development Projects. Three projects done in the United States in the late 1970s and early 1980s under the label of "Interactive Research & Development" (IR&D) signalled a re-emergence of action research into the larger United States educational research community. Responding to perceived inadequacies of the then prevalent linear research and development model, project leaders sought a way to encourage teachers toward greater usage of the results of research. Engaging with teachers in collaborative research "intended to resolve their problems," it was hoped, would reduce the time lapse "between the initiation of research and the use of its findings" (Tikunoff &Ward, 1983, pp. 454-455). Especially in the last of the three projects, there was also a sense in which the projects were tied to a search for "factors that encourage job satisfaction" (Jacullo-Noto, 1984, p. 208).

"Professionalism," defined to include the acquisition of the skills and attitudes of the researcher, is the key term in the IR&D projects. Through careful study, the teacher perfects a "knowledge base" of technical competencies, as well as a set of research skills. Teaching was seen to include some of the same characteristics present in other action

research work, for example, "having a more reflective stance regarding practice" (Tikunoff, Ward, & Griffin, 1979, p. 424) or engaging in "informal inquiry" are seen as "characteristic of good teaching" (Tikunoff & Mergendoller, 1983, p. 217). Yet there are some important differences. First, because much of the IR&D work focused on teaching skills, as distinct from curriculum development, there is an implicit narrowing of the teacher's role that makes it difficult, if not impossible to unite practices with guiding curricular principles, an important feature of some of the other projects. Second, perhaps because of the nature of some of the research itself such as dealing with distractions (Behnke et al., 1981), there is a clear view that teaching is a matter of discerning and acquiring a set of specific competencies or techniques, a position rejected by many of the earlier action researchers. Finally, there is a focus on teachers' acquisition of research and development skills (Tikunoff, Ward, & Griffin, 1979) as part of their "professional repertoire" (Tikunoff & Mergendoller, 1983, p. 226). That focus was less on teachers as producers of research and more on the likelihood that teachers would become more willing and able to be consumers of the research of others (Tikunoff & Mergendoller, 1983).

In IR&D the teachers' workplace was considered to be one of "complexity" and isolation. Instead of the earlier projects' discussion of issues of authority and resistance to change, the reduction of isolation in the teacher's workplace and a series of claims about the outcomes of engaging in IR&D work were emphasized. While a response to the demands of an increased workload was considered, the discussions focused on providing opportunities for teachers to gain reinforcement, recognition, and respect through a new form of in-service education (Jacullo-Noto, 1984). Participation should increase teachers' "awareness of educational options and possibilities within their own professional roles and daily functioning" (Tikunoff & Mergendoller, 1983, p. 221) and their "understanding of school phenomena, as a system of interacting variables." The latter understanding included a "sharpened understanding of student differences, teacher preferences, system rules and policies, parental expectations, and curricular demands" (Griffin, Liebermann, & Jacullo-Noto, 1983, p. 60). The concern with awareness and understanding seems to parallel the discussion of constraints discussed in earlier works. Yet these were here seen as outcomes of, not as conditions for, teachers' research efforts.

IR&D was also intended to affect the social relationships of teaching that could ameliorate the problem of isolation. To at least one of the participating teachers, Cindy Chase, those relationships were "considered by the team to be one of the most rewarding aspects to the study" (Tikunoff, Ward, Behnke et al., 1979, p. 35). The issue of isolation

became part of a focus on the psychological benefits of participation in IR&D. Participants in the projects were said to express increased confidence in their professional skills, and, as a result, to enjoy heightened self-esteem (e.g. Griffin et al., 1983). Self-esteem emerges here not as a constraint to innovation, but rather as an outcome of participation in research.

Action Research in Curriculum. One goal for engaging in action research, according to the Deakin group, was to develop a rationale for one's practices. This focus on rationality, seen as *critical*, rather than practical or technical, forms a basis for the definition of the teacher. Several other facets of the view of teaching are also noteworthy, including very little emphasis on acquiring a discrete set of teaching or research skills. Rather, a process of gradually defining and redefining both goals and practices with children and others in a particular situation is apparent. Teachers were clearly involved in curricular decisions, yet there was also a frequent focus on the idea of "negotiation" of learning with children, parents, and others. Many projects seem to have been influenced by ideas such as those present in Garth Boomer's (1982) edited volume *Negotiating the Curriculum*. It is important to remember that the projects discussed here were not the result of one unified project. Rather, they were compiled from a series of broad-based efforts in various locations, under various facilitators (Grundy & Kemmis, 1982).

Another issue, similar to one raised earlier by Corey (1954b), is whether teaching could be conceived of as research:

> It is often asked "Don't all teachers do this anyway?" Certainly all teachers are involved in action and often in change, but their actions are often not strategies in that they act to change simply on the basis of perceptions rather than subjecting perception to the process of reflection. (Grundy & Kemmis, 1982, p. 89)

Teachers' reports show a focus on pedagogical practices that clearly focused on the development of student autonomy and the broadening of the base for educational planning (e.g., Sweetman, 1982). Teaching as facilitating learning and teacher as a resource person was emphasized (Creek, 1982, p. 110). Involving children in the research process, giving the children "power over their own learning," seems similar to the search for the "democracy in the classroom" that Hopkins presented in the early 1950s (Cormack, 1982, p. 116).

Issues of control were integrated with questions of pedagogy and curriculum. The children's reactions to lessons were not taken either as an obstacle to innovation or a variable to control, but as an important data source for understanding the teaching-learning process. Children's behaviors, according to one writer, were also not to be accepted in a

laissez-faire manner. Stressing that "the surroundings of the learner must be conducive to learning," Reid (1982) summarized:

> While I believe that curriculum negotiation has an important role to play in educating students to become independent (and on-going) learners, I feel it is important to stress here that there are some things that cannot be negotiated . . . . It is the teacher's job to make these professional judgments. (p. 134)

The writings of the university-based researchers, for example, Grundy and Kemmis (1982), explore several workplace issues in action research. The issue of authority or power is connected to that of communication and the focus is clearly on empowerment:

> Where the intention is genuinely to improve practice, real and significant change can and does occur. One of the underlying reasons for the significance of the change . . . is the shift in power that occurs through the operation of the action research process. Not only is the teacher empowered in controlling the process of change, but the consultation which inevitably occurs between teachers or between the teacher and his or her pupils often empowers those others as well. (Grundy & Kemmis, 1982, p. 93)

While "communication" was a frequent topic in many of the other action research efforts, the concept here is quite different from the emphasis on consensus or shared expertise discussed earlier. The recognition of the diversity of views and the connections of practical action and political awareness, rather, are salient features. They stress the need for

> a special kind of communication which recognizes the authentic knowledge of group members, recognizes distinctive points of view, and engages them with practical and political deliberation about practice (with corresponding political consciousness). (p. 87)

Finally, there is a different articulation of the issue of resources. Participation in action research required a great deal of time and commitment and this problem was addressed in two ways. First, there was recognition that:

> It is a mistake to think of action research as research "on the cheap." It involves considerable amounts of time and energy for already busy practitioners. Teachers' time is the most valuable commodity in education; and time is the most expensive commodity in educational research. (Grundy & Kemmis, 1982, p. 94)

Second, changes in research methods were seen as necessary: "[T]echniques need to be made accessible to practitioners so that action research can be carried out with the least possible disturbance to practice itself" (p. 94).

One of the most interesting aspects of the teachers' reports is the scarcity of comments about freedom to innovate, constraints from outside the classroom, or lack of support and time that were so common in other projects. Although a few teachers seemed cautious about parent

reactions, they initiated communication and ideas about their projects. Teacher reports highlighted the origins of their projects in their feelings of dissatisfaction with current practices and often reflected new ideas gained from participation in workshops.

An article by Campagne (1982) is one of the few places in teacher documents where factors affecting the teachers taking on changes were discussed. The first factor was a need to have teachers in touch with research and theory, but in such a way as to make theory and practice have a "workable relationship"—one "that has both intellectual and professional honesty and paths to practical applicability." Second was the need for "support structures" whereby others encourage and help with the risks taken in changing and studying one's own practices (1982, p. 150).

The need, not only to be responsive to the conditions of teachers' workplaces, but to continue to investigate the process of action research itself was clear:

> The criteria of rational discourse, authentic enlightenment, and free commitment to wise and prudent decision making (by which the self-critical processes of action research may be judged . . .) could well be taken as an educational credo. Research is needed to establish whether and when group decision making processes in action research live up to this promise, and how the conditions can be created for further progress toward achieving the promise in performance. (Grundy & Kemmis, 1982, p. 95)

Rather than seeing group dynamics as the answer to problems of authority and communication, the point here is that these, too, must be studied if the goal of empowerment is to be achieved. This point seems to be one which teacher educators involved in action research efforts ought well to pursue.

For anyone sensitive to nonsexist language, this section should have raised eyebrows. Throughout this paper, I have retained the language of the original text, as Stenhouse (1983) did, with apology and explanation, in a collection of his works. I do so, not only because, as Stenhouse said, "I have thought it important not to revise them given this historical perspective" (p. vii), but also because the altering of a few pronouns, while an important symbolic and discursive event, does not alter the power relations they embody. The issue of gender in action research, especially as it relates to the nature of knowledge, knowledge production, and the work of teaching has been, for the most part, an unexamined question in the literature.

The final section of the paper will summarize the work and workplace issues that have emerged from this historical analysis and discuss them in terms of their implications for efforts to determine whether, what kind of, and how action research might play a role in pre- or in-

service teacher education. Finally, the issues that have emerged have implications for our general understanding of teaching as a labor process—both as work and as taking place within a workplace. The beginnings of an exploration of another way to think through issues of the work and workplace of teaching within action research are presented as ones which draw on the notion of teaching as "gendered labor" (Apple, 1986). Such a form of analysis holds out the possibility of understanding better the contradictions involved in action research by and with teachers.

"Not a Change of Heart"

The title of this section comes again from the writings of Lawrence Stenhouse (1975). In discussing the barriers to the full realization of the teacher as researcher, he identified and discussed the process of change:

> All this points to the difficulty of change; but it also points to the need for change. I think it further suggests that it is not a simple change of heart that is needed in schools. It is a change of organization and pedagogy which is founded on a development of the professional skills and knowledge of teachers. Morale is founded on professionalism. (p. 167)

One of the key factors that needs to be involved in assessing the merits of using action research in teacher education is the degree of clarity in the vision of teachers and their work. Questions that need to be addressed include those of the breadth of the vision and the purposes it serves. The resurgence of action research efforts in the United States can be seen to have come on the heels of major efforts to "deskill" the work of teachers (Apple, 1986). Its current context remains one in which efforts to erode the control of teachers over their work continue, albeit in a different form. The early action research era included great emphasis on the teacher as a major figure in curriculum development, curriculum of a particularly progressive kind. The IR&D efforts could be seen as a way to pull teachers away from issues of control of the curriculum, and away from seeing the interrelatedness of curriculum, pedagogy, and management. Teachers are reskilled but not empowered. If we are to advocate action research efforts with teachers, we must first be clear what political agenda our efforts might further.

Another set of issues arose from the study of the teacher's workplace. Here, too, power was a salient factor. Taken together with the work of Stenhouse, the central workplace issues in the revival era projects reviewed are those of resources, authority, and communication. These issues point toward needed reforms or changes both in the role of the teacher and in the nature of the workplace which would facilitate the development of an educational environment in which action research

could take place. The variations on these issues echo many of the concerns already raised in the United States action research efforts of the 1950s.

There are several important things to consider here. One is the way that the personal and social significance of action research intermingle. The authority of science gives not only self-esteem and self-confidence to teachers, it also serves to depoliticize educational discourse, deferring decisions to people labeled experts. The emphasis on personal relationships not only serves to improve communication, it also alleviates for some teachers a structural condition of teachers' work through a collective effort toward change.

A great deal of caution must be exerted in evaluating efforts to institutionalize action research in teacher education. Here, again, an example from the United States context will serve to clarify the issue. In an era of heightened efforts to professionalize teaching, there must be an effort to ensure that the model of professional applies to the caring and nurturing of children. Clark and Lange (1979) offer an analysis of the course of feminism which has particular significance to this issue. If one reads in "teachers" for "women," which is not an unreasonable reading, and "advocacy for teachers' involvement in research" for "feminism," one begins to see how the visions of the role of the teacher and the nature of the teachers' workplace could be skewed toward a definition of professionalism and rationality that does adequately consider the dual nature of teachers' labor:

> Feminism has for the most part taken the form of demanding to be let into . . . the productive sphere, from . . . the reproductive sphere. This is an important goal. But if our analysis of the two forms of labour needed for the existence of society is correct, it is clear that this can be a solution for no more than a few isolated individuals, so long as the unique liability of women as a group to perform this reproductive labour remains. Economic and social pressure on women to do this work, and to do it as an act of love or duty rather than of social labour, will continue to be relentless unless and until its organization is fundamentally altered to become democratically shared by all units in society. (pp. xvi-xvii).

Without careful attention to the burden action research places on teachers, and the way it might, in some forms, seriously undermine many teachers' concern with an "ethic of caring" (Noddings, 1986), it could lead to an improved status for some teachers—the creation of yet another hierarchy in education, or a form of labor intensification—increased expectations without job restructuring, for most teachers.

This last section of the paper has but raised the beginnings of serious questions about the use of action research with initial and continuing teacher education. These questions are raised, though, by a critical

friend of action research. The question of whether to engage in action research with teachers is seen as contingent upon how well we can resolve some of the issues inherent in its practice within the work and workplace of teaching. Such a resolution depends on developing the same questioning attitude in ourselves as teacher educators as we would have in teachers. We need to take a phase from our colleagues who work in feminist research (e.g., Harding, 1987) and engage in critically studying ourselves—the images of the work and workplace of teaching we tacitly promote as we engage in studying the work and the research attempts of others.

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2

Developing Reflective Practice in Initial Teacher Education Courses: The Place of Reading and Writing

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Any approach to teacher education which does not encourage teachers to reflect critically on their own educational views and on the nature of education as it is realized in the institutional settings of schools will be either inherently conservative or dangerously doctrinaire (Carr, 1986, p. 6).

Teachers are increasingly being urged to examine thoughtfully the values that lie at the heart of controversies expressed as educational issues. To begin such examination, student teachers must acquire some capacity for critical scrutiny of the structures and policies which, blatantly or more subtly, shape educational practice (see Rudduck, 1989). These are the kinds of concerns that gave energy to early action research initiatives. That is, teacher education might include instruction in the assumptions and procedures for engaging in action research as part of the process of learning to teach. Such a curriculum would include critical reflection upon the political implications of curriculum, instructional choices, and educational policies affecting teachers and students.

Recently, however, action research has become a more classroom-confined activity which, while helping the teacher to understand and improve aspects of his or her practice in its own terms, is technical in orientation. It lacks political bite. This is not entirely problematic. Classroom and school-focused research conducted by teachers are ways of building personal excitement and insight and these are important aspirations in a profession which suffers the now near-chronic malaise of low morale. But we would argue that a purely technical orientation is woefully insufficient.

The general trend of policy over the last few years has been to highlight the technical and practical at the expense of the critical and reflective. A live issue is whether responsibility for the initial training of teachers should continue to be located in university departments of education (which have now developed stronger partnerships with schools) or whether students should be located in schools. At one level, the debate is about protecting both new and experienced teachers from what the New Right see as politically dangerous ideas offered by university tutors, and the battle is presented in terms of the traditional dichotomy of "irrelevant theory" versus "useful practice." At another level the issue of becoming critically reflective as well as technically proficient is worthy of conscious study by teacher educators. An inquiry into teachers' and prospective teachers' conceptions of the form and purpose of critical reflection would help us better understand the possible gap in communication between those who emphasize critical reflection and those who view action research as solely an important technical, professional enterprise.

Our focus in this paper is on the problems that surround the introduction of the terms *reflection* and *research* into courses of initial teacher training. In so doing we highlight two aspects of the situation that have been often neglected:

1. The perceptions of the student teachers for whom the vocational aspect of teacher preparation is dominant and who do not readily see an emphasis on reflection as compatible with an intensive and concentrated program of preparation for teaching;
2. The perceptions of experienced teachers in the schools in which students are placed for teaching practice who do not generally see reflection as part of the mainstream image of professional practice.

The evidence drawn on in this paper has two sources. First, a recent study of the role of writing and reading in encouraging reflective thinking conducted by Jean Rudduck and three colleagues. This study was sponsored by the British Library and carried out with the cooperation of the tutors and students in six university departments in England. All participants were involved in the same one-year course as at Sheffield University. In all, 96 students were interviewed twice during the course of their training year. Their subject tutors and education librarians were also involved. (For a full account, see Squirrell, Gilroy, Jones, & Rudduck, 1990.) The second source is the more intensive data gathered by Peter Lucas as part of a continuing commitment to studying his own teaching as a history tutor in our one-year teacher education course (see Lucas, 1984, 1988a, 1988b, 1988c, 1989). The following sections reflect both our observations regarding the larger data set and Peter Lucas' reflections on his own experiences with students.

Introducing Reflection into Initial Teacher Education Courses Through Writing

The most accessible method of introducing reflection into initial teacher education (ITE) courses is through the requirement that student teachers engage in reflective writing. This may take the form of journal writing, assigned critical responses, or reflections on field observation. Whatever the assignment, this strategy for promoting reflection is fraught with difficulty because:

1. Students tend to see *writing* on the ITE course as a vehicle for assessment rather than as a search for personal meaning and professional understanding;
2. Students tend to see writing as a feature of undergraduate study, and do not expect it to feature as prominently on a postgraduate course of vocational training; and
3. Some students say that they have had little experience of sustained writing in their undergraduate work and consequently harbor negative feelings towards it.

By and large, tutors have not justified their writing assignments sufficiently, nor have they helped students to understand the place of reflective writing in the course. Furthermore there is no support available to those who find writing either novel or difficult. It is not clear for many students whether keeping a journal is the same thing as reflective writing. Students may think that journal writing requires a narrative style, or an emotively personal one (that borders on the cathartic) rather than a descriptive/analytic approach (see Squirrell et al., 1990, pp. 28-30). Worse, some students see the tutor's commitment to reflective writing as a slightly quirky thing which they respond to, since the work is assessed, in an "I'd-better-please-the-tutor" mood. Others respond more cynically: "We were basically told that the journal was only introduced to give the external examiner a bit more paper work to get his teeth into, that's all." Students are also confused about issues of confidentiality. They see journal writing as a form of personal reflection which they do not necessarily want others to see, let alone grade.

Knowledge of the students' perceptions of writing assignments was troublesome for Peter Lucas, the ITE history curriculum tutor at Sheffield. He was committed to reflection as a key principle of training. Although he was interested in the topics that had been highlighted in Rudduck et al.'s research project—writing and reading—he began to focus on the language of reflection, an aspect that had received little attention in the larger research project. The following section presents his analysis of problems with the language of reflection.

The History Tutor's Story, I: Out of Order

In our initial teacher education program, subject application work is heavily school-focused, relevant, and practical. Knowledge of what to do and how to do it is sought and exchanged by students in curriculum sessions; understanding the meanings that underlie actions are not common goals. While this situation may be consistent with government emphasis on training as opposed to education, I am mindful of William Taylor's (1978) comment on the role of critical examination:

> There is nothing wrong with the suggestion that students should be encouraged critically to examine their own practice, to ask questions about the curriculum, the pupils they teach, the factors that have led to their own self-perceived sense of success or failure. But if it is to be useful in guiding future action, such experience has to be conceptualized in terms that permit the communication and sharing of meanings, that encourage analysis and reference to the experience of others. (p. 118)

I have found that this important advice is weak on one fundamental point: it does not take into account the need for those of us who are tutors to come to terms with the quality of student teachers' command, or rather lack of command, of their own language.

Picture this scene. A student has classroom management problems. He is allowing himself to be absorbed by the demands of individual pupils and fails to hold the rest of the class. When he does notice inattention and misbehavior on the other side of the room, he is slow to respond and his response is not really effective. In writing reflectively on his experience, he notes that he must learn to act more *harshly*. His tutor comments, in the margin: "Do you really mean this? To be harsh means to be cruel and unfeeling." The deliberate use of words matters when professionals come to grips with reflection. You can't enquire vaguely into the structure of complex situations. A demand for precision is a demand that students are fair and accurate in their observations, are sensitively responsive to the minutiae of situations, and are prepared to adjust their reactions. This may involve sometimes suspending judgement in order to be faithful to the situation.

Why do students—it's not an uncommon problem—use inappropriate words? There are several possibilities: (a) they aren't bothered about taking care with words when they write because in their view assignments don't really count with them, (b) they allow themselves to be so emotionally involved in the defence or promulgation of their own views that they cannot step back and be dispassionate, or (c) they haven't time to take care because they have deadlines to meet in a program that they perceive as punitively crowded.

Many student teachers find the call for precision strange because they perceive it to be at odds with their conception of reflection as a simple, natural activity that everyone does: "People do just reflect on their own experiences," said one; "It's what I would do anyway—think about what I'm doing, why that happened, why this didn't go well or whatever," said another. But, she added, the tutor "always picks me up on ideas because I phrase them quite loosely when I'm talking." She didn't "exactly see where Peter (her tutor) was going on language" and drew a contrast between reflection outside and inside the classroom: "When I'm in the classroom of course (I) try to be much more exact." Another student, who said "I think that I need more vocabulary . . . much more," confessed to not feeling sympathetic to the demand for precision: "I don't think it is that important. I don't know really. As long as children can understand what you say." Let us be clear about the significance of what is being said. These student teachers, not long before they are going to enter classrooms as regular teachers, are tolerating and defending vagueness.

How should I, and other teacher educators, tackle this problem of words and meanings as part of a training in reflective practice? Arendt (1978) states that "all thinking demands a *stop*-and-think" (Arendt's italics). We see such stoppages as brief, perhaps recurrent breaks in a continuous experience—with the accent on definition and analysis. I will stop the class and lead a discussion around questions such as: What are we being told? How are we learning? What is being said? What is our understanding?

Such stoppages are similar to stopping a videotape and replaying a segment better to understand an event. They may be motivated by any number of events, and serve as a form of immediate, deliberate reflection on a situation. This is not to be confused with the reflection-on-action that takes place "in deliberate and calculated ways after the event." And it is not the almost undefinable reflection that takes place as "an inseparable part of on-going practice"—like Schon's jazz musicians making "on-the-spot adjustments to sounds they hear and subsequently produce" (Smyth, 1986, p. 11, referring to Schon, 1983).

One of my students commented that this sort of activity was "generally . . . helpful . . . because after all we want the pupils to be able to be precise in what they say and what they write down so if we don't do it we are not a good example for them." Despite the probability that this meta-cognitive activity may be perceived as valuable, it is certainly not pain-free. If it is overdone, student teachers become irritated and defensive. I must be constantly aware that hurt and humiliation are ever-present threats.

Arendt anticipated such reactions in her talks of "the intramural warfare between thought and commonsense." Commonsense impels the student teachers to seek ideas that are useful, practical know-how that will stop them making mistakes in the classroom. Thought as a quest for meaning is not a priority. It is easily overlooked in the crowded, practice-oriented climate of initial teacher training: "every reflection that does not serve knowledge and is not guided by practical needs and aims, is, as Heidegger once observed *out of order*" (Arendt, 1978, p. 78, referring to Heidegger, 1959, p. 12; Arendt's emphasis).

There are times when it is necessary to probe, to analyze, and even to intellectualize one's teaching. For those of us who define teaching as wholly or largely a practical activity, such times are likely to be uncomfortable because one might challenge long cherished beliefs and have no reservoir of ideas to replace them. It is understandable that student teachers, experienced teachers, and teacher educators might choose to sustain emotional comfort by keeping the intellectual demands low for themselves and for their students.

Reading and Reflection

Reading enriches reflection because it provides a surrogate dialogue with people outside the community of the school or cluster of schools. With in-service education becoming increasingly school or cluster focused, the need for opportunities to hear other perspectives and points of view is important. Reading will also inform the teacher about what previous research and experience has said about the particular problem that he or she is interested in pursuing.

In courses of initial teacher education a number of tensions surround reading assignments. Students often expect their experiences to be different from what they experienced in their undergraduate days, because they view ITE as a vocational training program that will be practice focused. Prior to the start of the course they have the first jolt when they receive a reading list! Once the course starts, more general reading lists are doled out with an ever-increasing generosity. Although course assignments call for evidence of reading, students do not find much time to read during the ITE course. Even the residual reading weeks that a few institutions still schedule may be thinly disguised excuses for students and staff to have a break from routine—and from each other—rather than planned events in the collaborative exploration of ideas.

The students whom we interviewed in our research project had a lot to say about the anomalies surrounding reading in their ITE courses. Some learn that you don't in fact need to read the recommended books

for the seminars—you can get by by referring to your classroom experiences instead. Moreover, books recommended by tutors are not always part of the library holdings, they point out. A frequent claim, or excuse, is that the best books are never there. Only a minority of students do their initial teacher education year at the institution where they completed their undergraduate studies, and libraries are, therefore, for the majority, an uncharted territory. The introduction to the library which is usually offered during a couple of hours at the very start of the year appears to have little impact.

So, do students read? "The only reading I have done has been directed reading." It seems that during the ITE year, reading becomes (or is confirmed in students' minds as) an instrumental activity related to fulfilling requirements for written work and getting reasonable grades. Many, however, say they find basic texts about the classroom useful and most will read the *Times Educational Supplement*, although some don't go beyond the job advertisements. Squirrell et al. (1990) conclude that "students are not given much encouragement to help them see reading as a means to understanding or as a way of getting a grip on new areas of experience" (p. 45).

Students' attitudes to reading are not helped by their image of practising teachers and by the projected self-image of themselves as teachers. Some students suggested (p. 49) that "reading was part of being an intellectual or an academic"—neither was closely associated in their minds with teaching. Reading "was clearly not seen as a source of insight that could lead to the improvement of one's art as a teacher" (p. 49). Indeed, some students thought that it was "not done" to talk in school about the things you had read:

> People take exception. They look at you suspiciously if you're right on the tip of things .... You're definitely considered eccentric and a danger. But if you're sort of five feet behind the tip then that's fine. (in Squirrell et al., 1990, p. 50)

But there are, of course, exceptions and students did comment on departments where they had been placed for teaching practice where teachers were reading avidly, were discussing what they had read, and were keen to go on courses that would help them deepen their professional understanding. These models are important. Many of the students recognized and acknowledged that without some sense of reading being a requirement, they are unlikely to undertake it. They also acknowledge the belief that if, later in their career, they don't enroll in courses where reading is a requirement, then they will be unlikely to embark voluntarily on any reading-for-learning.

Our data revealed the extent to which students in ITE courses have become habituated to the idea that reading is something you undertake within a structured framework for some instrumental purpose. The data

also reveal a disinclination to read about the broader, sociopolitical or socioeconomic concerns of education. Peter Lucas, aware of these research findings, decided to give a higher profile to reading than he had done previously, by exploring his students' reading habits. He was particularly interested in the tension between responsive and pre-specified reading, and the role of the tutor in being sensitive to what individual students and groups of students might need at different stages in the course.

The History Tutor's Story, II: The Dilemmas of Reading

"The biggest boob," one of my students said, was "not reading the one that he [the tutor] said at the beginning . . . John Fines on story telling . . . nobody really touched it." He read it later and found it to be "very helpful." Another student judged the article as having "the most effect for me. I know it's very difficult to be a good storyteller and that's one of my main aims and it was a short article actually." These students are referring to a powerful article (in my view) in which the author argues the case for narrative and gives advice on how it should be handled. He advocates having such a complete knowledge of the information that the story can be intimately shaped, being physically mobile and responsive to the disposition of the class, and overcoming a teacher's biggest obstacle—the fear of looking pupils in the eye to see whether or not the teaching is succeeding. The article has as much to do with psychology as with its substantive discipline, history. Before their first teaching practice the students were invited to read the article and to tape themselves telling a story. One of the assignments during teaching practice was to tape themselves reading aloud or telling a story to pupils on two separate occasions and to analyze their performances. Because they had not met the requirement that the assignment "must in its analysis component clearly draw upon educational literature consulted," most of the students had their work returned to them as incomplete.

Why had they made no reference to reading—and to the Fines' (1975) article in particular in their assignment to analyze their story-telling performance? Did they not believe that work would be unacceptable if there were no references to reading? And if they believed it didn't matter, that I wasn't serious, how had they arrived at this perception? The Squirrel et al. report notes (1990, p. 54) that "the accessibility of sources and the immediate usefulness of what they read" are key factors influencing students' reading. I had met the criterion of accessibility—my resource collection was available to my students and was situated next to my office which was adjacent to the teaching room. Moreover, the article I had highlighted was clearly practical, subject-oriented, and immediately useful. What, therefore, was going on?

Several issues emerged in the feedback session when the assignment was returned, and these have a bearing on what reflection might mean to the students and how it might be nurtured through reading:

- The first student quoted above saw the assignment as one with a focus only on self and, therefore, he was not thinking about what others had written. The need for reading about the act of story-telling hadn't been appreciated because story-telling was perceived as a personal and natural activity—not as an art which can be perfected.
- A fellow student confessed to being confused. Was the writing to be done using someone else's framework (i.e., just like those academic essays of previous years)? His response was an appeal for help as to how to use reading.
- Another student said it wasn't necessary to read before doing the assignment. Four students agreed: teaching was a practical activity; reading was theoretical.
- One student said, "most people actually ignored [the reading demand] because they thought, 'Oh dear! That's going to be difficult'."

Such responses prompt the following (uncomfortable) questions: why had I not shown them how reading might be used to extend their thinking and analysis prior to the feedback session? Why did I leave it until after the assignment had been submitted before showing them how I myself practised reading and writing reflectively? Why had I not checked up on students' perceptions of teaching as a practical or intellectual activity? Why, given the explicit importance I attached to this issue, had I not tutored individually on the matter of reading for assignments before students started on this assignment, or during the time when they were working on it? Why, in the curriculum sessions before they began their first block teaching practice, had I not demonstrated how reading could help to deepen insight and extend practical competences? Why had I not exemplified the criteria by which I was going to assess the quality of their reflection? How much attention had really been paid to the importance of reading as part of the curriculum seminars and workshops?

I see myself trying to encourage reading as an intellectual tool to help students advance beyond conservative analysis but I've come to think that Calderhead (1989) is right when he said that "the nature, function, and potential of reflection has yet to be fully explored." This suggests that tutors should, early in the course, focus on what reading might mean to students. This in turn demands an explicit attention to reading in curriculum seminars and workshops and in most supervisory discussions.

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Tutors have to provide, to use Bruner's term, "unpredictable services" (1976). An enquiry-based course, as Nias (1988) points out, demands of its tutors that (inter alia) "they must be prepared to read and research in response to their students' interests and not just their own" (p. 6). She advocates this because the "highly specialized body of knowledge" tutors have "may prove insufficient on its own to support and sustain enquiries." I concluded that in an ITE course students have to be entered into the process of enquiry before they can be supported and sustained.

In my opinion, of the six strategies commonly used by tutors to encourage reading (reported in Squirrell et al, 1990) not one is genuinely responsive to the needs of particular students. The six are: a stock bibliography given to the students at the start of the course; topic reading lists given out when the topics are started; the throwing out of references during the course of a lecture; tutors having the books-to-be-recommended with them when teaching so that they can "make their recommendations tangible"; focused reading lists given out "once the students are engaged in an issue"; and the use of assignments which are designed to ensure that the students read (a review of a book, for instance, or a response to an official document).

I decided to try to see what it was like to adopt a strategy of responding to students' needs. I provided the students with a precourse and a reading list subject specific bibliography. They received bibliographies as part of their broad educational studies program. Additional readings were posted on the wall of my teaching room for reference. Students were interviewed regarding their perceptions of my actions. An analysis of their responses identified three issues concerning my attempt to meet students' needs: (a) indulging in spoon-feeding, (b) learning the correct timing, and (c) capturing students' interests.

Indulging in Spoon-Feeding.

Student: "Peter generally gave us a few names to look for but when he found out we'd got special interests in certain areas of education, like anti-racist or gender issues, then he'd always look out articles and give them to us instead of letting us go and look for them."

Interviewer: "Wasn't this spoon-feeding? . . . the only thing left for him to do is to read it for you really."

Student: "Yes, I suppose so, in a way, but I think that's because he knows that not many of us would actually go over there [to the University Library] . . . and look things out for ourselves, plough through journals and . . . stuff."

When I read this transcript I felt embarrassed by the student's use of the words "instead of letting us go," but the observation that few students would go to the University Library is borne out by the negative reactions of student teachers to such a service (see Squirrell et al., 1990). A fellow student noted that I had taken their limited time into consideration.

Reflecting on their responses and my intentions I came to the conclusion that being ready to suggest a timely text, or even to put it into a student's hand is not so much spoon-feeding as it is modelling of the enjoyment of sharing ideas and the excitement of reading. Accompanying my gift with an invitation to share one's response to the reading is a signal that further dialogue is anticipated.

Learning the Correct Timing. Two of the most challenging aspects of providing unpredictable services are finding the right moment to make suggestions about reading and making the right choices. One student commented: "all the way through (the course) it was always spontaneous really, you'd come across something . . . problematic; that's when any guidance would come in . . . anything he [Peter] knew." This student had been given an article by Kieran Egan (1985) on "binary opposites." The article had, he said, come "out of the blue" and had been "brilliant." My notes for 25 November described his involvement with a lengthy simulation exercise during a block practice which I felt "has really put him in a position where I judge that he would find Kieran Egan's work on the narrative approach to planning very interesting. So I must get a copy to him."

The timing of this intervention seems to have been satisfactory, but this raises another issue, that of whether or not suggested reading is perceived as usable, appropriate, and accessible. The same student recalled that whilst on teaching practice he had looked again at "The Interrogatory Approach to Teaching" by Smith (1982), a brief article which students as a group had earlier been encouraged to read. Initially he thought it was "a bit heavy." But, he continued, "when I got into it it was brilliant and I used it for one of the assignments and my actual teaching as well." It had a big impact upon him. In writing to me during his first year of teaching he was still making reference to his reading. Several poor proposals made by the tutor lie behind another student's remark that "even some of the stuff that Peter's given us is mind-boggling." Other students may still resist reading because they see it as an unnecessary attempt to intellectualize teaching. I knew I had achieved some success, however, when some students began taking the initiative and asking me to recommend books which would enable them to get to grips with a particular problem.

Capturing Their Hearts and Minds. For one student the most significant reading in a professional course may be a text on gender, for another a text on learning theory, for a third it might be something quite unexpected. One of my students was particularly affected by the section of the autobiography of Muhammed Ali (Ali & Durham, 1976) in which he gives an account of his throwing away an Olympic gold medal because of disillusionment at his treatment by whites. For me it raised general questions concerning the reading habits of my student teachers. What texts do students find stimulating? Why do the students find them stimulating (especially if they are not overtly educational/vocational, as in this instance)? Can they be used for professionally reflective purposes?

Answers presumably can be found relatively easily to the first two: we can ask the students. But what about the third? The best reading for student teachers may not always be what seems to tutors (or indeed the students themselves) the most obvious. O'Hear (1990) has noted that Wagner's *Meistersinger* offers insight into educational innovation; Eji Yoshikawa's (1990) *Musashi: The Way of the Samurai* may suggest to "technicians" the potency of reflection; Sue Townsend's (1983) *Secret Diary of Adrian Mole Aged 13 3/4* illuminates important dimensions of teenage home and school life; and Marjorie Darke's (1982) novel about suffragettes, *A Question of Courage* (an example of children's historical fiction) may provide a stronger prompting to be participative than statements of the principles of active learning.

Conclusion

We began this paper by noting our belief in the importance of encouraging teachers to engage in critical reflection upon their own educational beliefs and practices. Our attempts to understand how student teachers might be encouraged to begin that process have led us to confirm that such critical reflection is not something that one should be expected to do only after a certain (and unspecified) amount of time in the profession. Every teacher has, at some time or other, to tackle difficulties that cannot be reduced to the merely practical concerns of teacher-the-technician. Reflection is an aspect of professional discipline to which aspirant professionals must learn to respond from the start of their training programmes.

The problem of successfully introducing reflective practice into courses of initial teacher training is complex and tough, although the speed with which the concept has been fashionably espoused by ITE institutions would seem to contradict the extent of the challenge. The difficulties derive to a great extent from teacher educators' neglect of,

perhaps unwillingness to confront seriously and systematically, several aspects of ITE which we have identified. Student teachers are often overly concerned with the vocational demands being made on them. Where they are asked to reflect, they can fail to see such an activity as being anything different from what they feel they would do anyway as a natural part of everyday living. The school teachers with whom they, and their tutors, work, are likely to dismiss the concept of the reflective practitioner as the jargon of trainers out of touch with the time-consuming pressures of day-to-day reality. Who has time to reflect? And the whiff of the medieval cloister contrasts with government-inspired demands for schools and training institutions to be proactively enterprising.

Traditional features of the way an ITE programme is organized can undermine the development of processes designed to strengthen student teachers' capacity for and commitment to both reflection and research. Thus, where enthusiasts have experimentally developed the courses for which they are personally responsible, further development may be restricted by the efforts of colleagues' practices and of the institution's general framework and procedures. Within the same initial training programme a lack of shared understandings among tutors can result in lip-service being paid to reflective rhetoric and diminish the significance of the goal of producing reflective teachers. Without a whole curriculum review (and with it genuine commitment by all tutors to declared objectives) success will be limited.

Preparation for such a fundamental review requires an appreciation of what is involved both for the institution and for the individuals who teach and learn within it. To believe that this can be done quickly or easily is to vote for superficiality, and there is already too much of this. In focusing in this paper on Peter's experiences with promoting reflection through reading and writing, we have indicated some of the specific problems the introduction of reflection creates for tutors and for student teachers. If reflection is to be more than just a fashionable slogan, the reform agenda is likely to be an uncomfortable one.

Reflection can be interpreted as a seemingly classroom-confined activity, somewhat introspective and relatively safe. From another perspective, however, it is a process in which classroom teachers are enabled, in association with others, to establish an agenda in which both curriculum and policy are intellectually challenged, resulting in attempts to alter institutional structures and interpersonal relationships. The first interpretation seems less robust and assertive, a softer option for those content with piecemeal tinkering and remodelling, whereas the second seems to be about more ambitious and more collaborative reconstruction.

We want to emphasize the symbiosis that ought to exist between the two perspectives, which we call for convenience the *classroom* and the *critical* perspectives. It is this symbiosis that needs to be acknowledged and protected. It prevents the former from remaining too narrow and naively apolitical, and the latter from succumbing to the escapism of wonderland.

Learner teachers possess their own agenda as McIntyre (1988) points out, and so, too, do all teachers—and teacher educators. To recognize this fact is to acknowledge the centrality of the individual at all stages of his or her professional development. This centrality means that for each individual the emergence of a symbiosis between the two perspectives is often untidy, frequently unpredictable in its emphases, and always vulnerable to negative comment from those who urge teachers to forget the theorizing and get on with the job. The examination of values and of the impact of structures and interpersonal relationships on the effectiveness of classroom performances and processes must be rooted in scrutiny of what the individual is doing. This is an uncomfortable path. Teacher educators who adhere to and promote reflective practice cannot automatically expect to find support from their students, nor from their colleagues (either in their own ITE institutions or in schools). Indeed, the demands are such that colleagues have continually to be persuaded, and battles to be refought.

In learning to attend more analytically to what individuals are saying to, and doing with, each other; in learning to acknowledge the inherent conservatism and irrationality of relying solely on one's own experiences as a source of data; and in learning increasingly to develop an understanding of personal, structural, and interpersonal constraints and strategies for dealing with them, student teachers confront a challenging agenda: it includes reading, writing, the use of language, how we behave towards each other, and the steeling of personal resolve.

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3

Personal Perspectives and Learning to Teach Writing

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Learning to teach is a complex and personal activity. Each teacher's practice represents an integration of knowledge, skills, and dispositions that are shaped by both personal and professional experiences. Little is known, however, about the process of learning to teach and the role various factors, including teacher education, play in developing the expert practitioner (Feiman-Nemser, 1983, 1990). This paper explores this complex process by examining the relative influence of subject matter understanding, professional training, and personal perspectives on learning to teach by two groups of novice teachers, one group educated in a traditional university setting and the other recruited and prepared to teach in an alternate route to teacher certification.

We situate our discussion of these novices' learning to teach in recent debates regarding ways to improve teacher education. Many calls for reforming the education of teachers have focused on improving candidates' understanding of content, i.e., the development of subject matter knowledge and its relationship to teachers' instructional representations (see, for example, Grossman, 1988; Reynolds, 1989; Shulman, 1986; Wilson & Wineburg, 1988). However, research based on cognitive psychology, indicates that it is not only what is known that is important for teacher learning, but how this knowledge is processed, i.e., personally organized and mediated (Carter, Saber, Cushing, Pinnegar, & Berliner, 1987; Chi, Glazer, & Rees, 1982). There is increasing evidence that the personal perspectives individuals bring with them to teaching exert a powerful influence on how the professional knowledge presented in programs of teacher education is understood and used (Britzman, 1986; Bullough, 1989; Connell, 1985; Crow, 1987; Ginsburg & Newman, 1985; Knowles, 1988). Further, these personal perspectives serve as major

pedagogical driving forces several years into a teaching career (Crow, 1988).

The relative emphasis placed on such personal perspectives, subject matter knowledge and pedagogical knowledge, as the basic qualification for teaching is a key difference between traditional university-based and alternative routes to teacher certification. Alternative routes to teacher education rely on the liberal arts and subject matter preparation provided by a baccalaureate degree and a disposition to teach as the basic preparation for entering the profession. Traditional university-based programs, on the other hand, emphasize the need for teachers to develop pedagogical content knowledge—the ability to represent the subject in a variety of ways so it is understood by diverse learners—as the basis for effective teaching (American Association of Colleges for Teacher Education, 1985). The development of such knowledge, it is argued, requires extensive university-based course work and supervised practice. Proponents of both kinds of programs agree that subject matter knowledge is essential. The assumption that underlies university-based teacher education, however, is that this knowledge must be elaborated and mediated through an understanding of the pedagogy of the subject matter. In contrast, alternative route programs rely on personal dispositions and on-the-job evaluation and feedback to guide teachers' representations of content in instruction.

The purpose of this paper is to explore the relative influence of personal perspectives and professional pedagogy on beginning teachers' instructional practice. The paper contrasts the perspectives and practice of a group of candidates who have completed a fifth year university-based teacher education program with a group of candidates who entered teaching through a school district-based alternative route to teacher certification. By analyzing the role various sources play in the development of pedagogical knowledge and skills, we hope to inform the debate concerning teacher recruitment and preparation.

The Professional Knowledge Base for Teaching

A current concern in research on teacher education is the identification of a knowledge base for teaching. Towards this end, much has been written about what teachers need to know to be effective instructors. Lee Shulman and his colleagues in the Knowledge Growth in a Profession Project at Stanford University have emphasized the need to focus on pedagogical content knowledge as the main source of knowledge for teaching (Grossman, 1988; Shulman, 1986; Wilson, Shulman, & Richert, 1987; Wilson & Wineburg, 1988). Pedagogical content knowledge includes subject matter understanding, knowledge about the needs of

diverse learners, and knowledge about subject-specific instructional strategies and curriculum. These scholars argue that effective teaching is premised upon teachers' abilities to develop multiple representations of subject matter which will meet the needs of diverse student populations; development of pedagogical content knowledge, then, becomes the main focus of teaching.

Subject matter competence and understanding of subject-specific pedagogy are widely agreed upon prerequisites for good teaching, yet there also exist other conceptions about the role various influences play on teachers' behaviors. Cognitive psychologists, for example, have demonstrated that an individual's ability to reason through problems and act in practical situations is determined not only by the knowledge available to them, but also by the ways a person processes and understands such knowledge (Greeno, 1977). Individuals construct personal frameworks of knowledge and beliefs which act as a filter through which they interpret information and use it to guide decision making (Anderson & Bower, 1973; Chi et al., 1982). Two teachers, therefore, with similar understandings of subject matter pedagogy, may understand and consequently react to the same classroom events very differently. Personal interpretations of teaching/learning contexts act as mediating and moderating variables in teacher behavior.

Novice teachers bring to teacher education an established structures of knowledge and beliefs about teaching and learning which form an "intuitive screen" through which they interpret professional education and classroom teaching experiences (Posner, Strike, Hewson, & Herzog, 1982). Zeichner, Tabachnick, and Densmore (1987) call this set of coordinated ideas and actions teachers use to respond to classroom situations, their "perspectives." Once developed, teachers filter new ideas or experiences through these personal perspectives and tend to both reject those which contradict and assimilate those which support, their viewpoints (Goodman, 1988; Zeichner & Tabachnick, 1981). Personal perspectives, therefore, exert a powerful influence on what prospective teachers learn in their programs of teacher preparation and the kind of instruction they practice in their classrooms. In this paper, we posit that pedagogical content knowledge in practice—knowledge of subject matter, learners, and subject-specific curriculum materials and instructional strategies—is mediated through and moderated by teachers' personal perspectives.

Sources of Personal Perspectives

Research on occupational socialization indicates that ideas that guide subsequent professional development are often formed early in life

(Becker, Geer, Hughes, & Strauss, 1961; Oleson & Whittaker, 1970). The frameworks that structure teachers' knowledge are developed from multiple sources, including early childhood, classroom "apprenticeships of observation" and work experiences (Bullough, Crow, & Knowles, in press; Goodman, 1988; Lortie, 1975; Zeichner & Gore, 1989). Research on the traditional teacher education population—most of whom are recent high school graduates—indicates that prospective teachers draw upon their experiences as learners and attempt to create those conditions missing from their own schooling as well as, in some cases, try to reproduce parent-child relationships in their own interactions with pupils (Connell, 1985; Knowles, 1988).

The proliferation of alternate route programs is changing the demographics of those entering teaching; many of those entering alternative route programs are older and bring with them a rich variety of personal and work experiences which shape their perspectives (Darling-Hammond, Hudson, & Kirby, 1989; Stoddard, 1988). To date, only a few studies have explored the influence of these kinds of experiences and practices (e.g., Bullough, 1989; Bullough et al., in press; Crow, 1987; Feiman-Nemser & Buchmann, 1987). This study contributes to current understandings of what personal perspectives alternate route teachers bring to teacher education, how these mediate and moderate their professional perspectives, and how these may differ from those of the corps of individuals currently dominating the ranks of novices entering the teaching profession—young, White, middle-class females.

Views of Personal Perspectives in Traditional and Alternate Routes to Teacher Certification

Developers of traditional and alternative routes to teacher certification differ in their evaluations of the importance of personal perspectives in learning to teach. In alternative route programs, they seek to build on personal perspectives as a source of knowledge for teaching which enhances instruction and raises teaching standards by diversifying the teacher pool (Fox, 1984; Gray, 1987). In contrast, university-based teacher education programs are typically concerned with the mastery of content knowledge, technical skill, and the reorganization of teacher perspectives (Feiman-Nemser, 1990; Zeichner, 1983).

These different views are apparent in differences in program organization and content. Individuals who enter teaching through alternative routes to teacher certification receive little or no pedagogical preparation before they begin to teach (Adelman, 1986; Stoddard & Floden, 1989). Personal perspectives, therefore, are likely to exert a strong influence on the pedagogy of beginning alternative route teachers. On the other hand, university-based teacher education aims to

replace individuals' naive personal perspectives on teaching with a professional knowledge base, through extensive preservice course work, and guided practice. The beginning practice of traditionally trained teachers should show the influence of professional training on their personal perspectives on teaching.

Methodology

The "Teacher Education and Learning to Teach" (TELT) study of the National Center for Research on Teacher Education (NCRTE) is examining what teachers are taught and what they learn in 11 diverse preservice, induction, inservice, and alternative route teacher education programs. This work combines case studies of programs with longitudinal studies of participants' learning (NCRTE, 1988). This sample of teacher education programs in the United States was chosen to represent a wide array of diverse approaches to teacher education; they were chosen as they appeared to differ substantially in their goals, structures, contexts, and curricular emphases (see NCRTE, 1988).

This paper draws on NCRTE data to compare the personal and pedagogical perspectives of two groups of beginning teachers who represent examples of those teachers prepared through school district-based alternative routes to teacher certification and those prepared to teach via a more traditional program of preservice teacher education.

The University Program

The postbaccalaureate program offers students the opportunity to gain a master's degree in education and certification to teach secondary school English. The program requires 36 hours of course work, two 3-week practica, and 10 weeks of student teaching. Typically, teacher candidates work for two summers and one academic year to complete the program. Three intertwined themes mark this program of teacher education: (a) a subject-specific approach to teaching based on the "process" approach to teaching writing which emphasizes cycles of drafting, revising, and editing and downplays correction of student errors, (b) a view of learners which emphasizes differences in individuals' styles of writing, and (c) a focus on the domains of the State Performance Measurement System as ways of organizing curriculum and instruction.

The Alternative Route Program

The school district-based teacher education program offers individuals with a baccalaureate degree the opportunity to earn their teaching

credential on-the-job. Those candidates enrolled in this program are qualified individuals in subject areas—English, mathematics, and science—inadequately staffed in the school district. They are placed in hard-to-staff inner-city schools with high numbers of students of color. The 2-year program has three main components: (a) an initial 15-day phase orienting candidates to the districts' curricula, policies, practices, and procedures, (b) a series of weekly 3-hour seminars held after school throughout the school-year, and (c) a mentor teacher providing ongoing support. Prospective teachers who complete this program receive a positive evaluation from the school principal and the school district then recommends them to the State Commission on Teacher Credentialing.

Four aspects of instruction were emphasized in the two days of instruction concerning the districts' English program: (a) the district's approach to teaching English, a literature-based curriculum for the teaching of the language arts, (b) the district's approach to organizing instruction, a seven-step lesson plan based on the Madeline Hunter model, (c) an emphasis on "how to," practical examples and curriculum materials provided by the instructors of the seminars, all of whom are practicing teachers or administrators, and (d) a view that all students can achieve if effectively taught.

The alternative route program offered no specific instruction on the process approach to teaching writing, but there were philosophical similarities in the two programs' approaches to English instruction. Both emphasized teaching of the mechanics of writing through integrated instructional activities and emphasized the importance of developing a varied English curriculum to respond to students' backgrounds, interests, and learning styles.

Subjects of the Study

The subject pool for the TELT study of the two programs included 27 individuals who graduated with secondary English certification from the university program and 21 prospective secondary English teachers enrolled in the alternative route to teacher certification. These individuals were involved in the questionnaire section of the study. There were significant differences in demographic constitution of the overall subject pool. The alternative route candidates were significantly older, more likely to have worked, be a male, and be a person of color, than their university-trained counterparts. Seventy-seven percent of the university teachers were under 28 years of age compared to 23 percent of the alternative route teachers. All of the university teachers were recent college graduates; 56 percent of the alternative route candidates were men compared to 21 percent of the university teachers. All of the

university-trained teachers were White; 34 percent of the alternative route candidates were persons of color.

The case study sample used in this paper includes four university-trained teachers, Scarlett, Sena, Stephanie, and Sheila, who were all White females under 28 years of age and had only worked part-time and at temporary jobs to support their studies before entering teaching. Scarlett and Sena were married soon after graduation from their program; none of the four had children. The four alternative route case study subjects were all over 30 years of age (three over 40 years) and all had worked in other full-time jobs before entering teaching. They included Chase, a 32-year-old Asian male, Chad, a 42-year-old Black male, Clark, a 43-year-old White male, and Carmen, a 43-year-old White female. All were married with families.

The two groups were equivalent in subject matter preparation. All eight teacher candidates had completed baccalaureate degrees with an English major and a grade point average of 3.0 or more. In addition, the university-trained teachers had scored 1,000 or above on the Graduate Record Exam and the alternative route teachers had scored 620 or above on the National Teachers' Exam in English.

Procedures

The analyses presented here are based on interviews at the beginning of the subjects' first year of teaching, interviews at the midpoint of their preparation (in the case of the alternative route teachers, they were already in the classroom), and interview and classroom observation conducted at the end of the first year of teaching. The semistructured interviews focused on teachers' views of writing, their understanding of subject-specific pedagogy for teaching writing, and their views of diverse learners. The classroom observation was accompanied by a pre- and post-observation interview in which the teachers talked about their plans for instruction and discussed lesson outcomes. The interviews and observations were transcribed. Analyses of transcripts were conducted via a procedure called analytic induction (Goetz & LeCompte, 1984) in which participants' transcripts were first read to establish the presence or absence of categories of ideas and then were reread on multiple occasions for a systematic content analysis of each category. Themes from these teachers' transcripts were grouped into two main categories: perspectives on writing and perspectives on diverse learners and the curriculum and instruction they require. Transcripts were then read again to determine the presence or absence of particular viewpoints within a category, e.g., the perspective that diverse learners are often deficit learners.

Findings

In our study, we analyze two key differences between these two groups of teachers in the perspectives that mediate their instructional practices as they begin to teach writing: personal perspectives on writing and personal perspectives on diverse learners and the curriculum and instruction they require. These analyses demonstrate the powerful mediating influence of personal perspectives on professional practice.

Perspectives on Writing

All eight teacher candidates viewed themselves as writers engaged in personal writing—journals, short stories, and poetry—and viewed writing as a pleasurable and important part of their lives which enabled them to process and understand events through which they lived. The role of personal experience, however, is apparent in the different ways the university and alternative route candidates viewed the function of writing in their lives. For the four university candidates, writing is only a pleasurable and helpful personal experience. For the four alternative route candidates, all of whom had worked at other jobs before entering teaching, writing plays an instrumental role in acquiring and maintaining a job. A second way the alternate route teachers viewed writing as functional was in their views of writing as an empowering or efficacious force in individuals' lives. They believed that people who can effectively communicate are more in control of their lives, can influence other people, and are more successful personally and professionally. As we see later, this instrumental view of writing plays an important role in the development of their pedagogical perspectives.

Perspectives on Diverse Learners and the Curriculum and Instruction They Require

The mediating influence of personal experience on pedagogical perspectives was also apparent in the teacher candidates' views of learners. The university-trained teachers contrast sharply with the alternative route teachers with respect to their experience in multicultural environments. The four university-trained teachers, Scarlett, Sena, Stephanie, and Sheila, White females in their twenties, grew up in mainstream middle-class, suburban environments. Of the four, only Sheila had any experience of nontraditional life-styles. The four alternative route teachers, Carmen, Chad, Chase, and Clark, in contrast, all had grown up or had spent a considerable part of their time, in a large multicultural city.

Chad and Chase are males of color. Carmen grew up in a poor, immigrant family in the inner city. Clark is a middle-class White male.

The main differences between the two groups' perspectives on diverse learners were in feelings of personal differences or similarity to the students they taught and their positive and negative assessments of the learning capabilities of poor students and students of color. For example, three of the university-educated teachers, Scarlett, Sena, and Stephanie, emphasized the social class differences between themselves and their students. As middle-class Whites, they evaluated perceived social differences between themselves and their students as producing cultural and learning deficits which made learners difficult to teach.

Sheila is also a young White female enrolled in the university program, but her perspectives on student diversity are very different from those of her colleagues. She comes to the program, however, with a different personal history, being involved in an alternative life-style which makes her a member of a social minority group. In this respect, she is not as immersed in the mainstream, middle-class, White culture as her colleagues. In her talk about students, Sheila does not refer to differences between herself and her students, but demonstrates her equitable ideas by negotiating with them. She implicitly acknowledges her responsibilities for building understanding and mutual respect with the students and challenges herself as a teacher to find culturally relevant instructional strategies. She values students as individuals, rather than focusing on their membership in a social or cultural group—just as she herself wishes to be valued.

Three of the four alternative route teachers, Carmen, Chad, and Chase, drew upon their personal experiences growing up in low-income families and/or families of color to identify with and respond to the diverse student populations with whom they worked. They do not view themselves as different from their students nor do they view the students as suffering from cultural deficits which make them difficult to teach. Rather, they expect students to be able to achieve in school and succeed in life, just as they did; Carmen, Chad, and Chase value the experiences students bring with them to school and believe it is important to make instruction culturally and personally relevant. Clark, a middle-class White male, shares some perspectives with Scarlett, Sena, and Stephanie. He also believes that "lack of culture" leads to learning difficulties in low-income learners and students of color and that such students require more drill and practice activities in school. All eight teachers spent their first year of teaching in schools with diverse student populations where their perspectives on learners exerted a powerful influence on how they responded to students and on the kinds of writing instruction they practiced.

Balancing Personal and Professional Perspectives

The beginning teachers in both groups were influenced by a complex web of their own personal perspectives on teaching and learning, the relative influences of professional training and the context of the schools in which they taught. In the case of the university-educated teachers, this involved adapting the process approach to teaching writing to a diverse student population in schools that emphasized a skills-based curriculum. In the case of the alternate route teachers, it meant developing a personal pedagogy for teaching writing in the absence of professional training in writing instruction.

The University-Educated Teachers

In their first jobs, all four of the university-educated teachers taught classes of low-income learners and students of color in schools that emphasized a skills-based curriculum focusing on grammar, usage, and instruction drawn from language texts; the English curriculum in each school was built on that of the state-recommended guidelines with different goals and instruction targeted for learners tracked according to their varied skills. The personal perspectives on diverse learners as deficit learners which Scarlett, Sena, and Stephanie shared—combined with their first teaching experiences in schools with vastly different curricula than that advocated by their university program—and their own youth and lack of prior work experiences impeded the translation of the subject-specific pedagogy learned in their university programs into classroom practices.

Scarlett's, Sena's, and Stephanie's views of diverse learners as individuals requiring the pieces of language rather than the composition of whole texts conflicted with the university program philosophy that all students can learn to write via similar procedures of drafting, revising, and editing. The university program placed a heavy emphasis on drawing on students' personal experiences and interests as sources of text and as a means of engaging students, individually and in groups, as authors and editors. Yet, because Scarlett, Sena, and Stephanie did not value students' out-of-school experiences, they did not draw on them in instructional activities, were reluctant to allow students autonomy in writing, and accommodated to their schools' skills-based curricula—which was more compatible with their views of the kind of instruction diverse learners required. Only Sheila, who held positive views of the strengths of diverse learners, attempted to and succeeded in putting the process approach to teaching writing into practice. In the following descriptions of these teachers' practices, we show how their personal

perspectives towards students mediated and moderated their professional perspectives on the teaching and learning of writing.

Stephanie

Stephanie's talk about her first year of high school teaching reflects the writing process approach presented in the teacher education program, but the reality of her instruction for low-tracked learners conforms to the skills-based school curriculum, which is more in line with her own beliefs about these learners. She talks of engaging the students in the processes of brainstorming, prewriting activities, and working on multiple drafts, but the writing program she puts into place for them emphasizes the production of short pieces which respond to teacher-selected topics and answers to questions about the literature read in class. She does not regularly implement a program of writing where students actively engage in the writing process as authors and editors; rather, she chooses the assignments and the students work individually in class toward fulfilling her requirements.

Stephanie's teacher-directed and skills-based approach to instruction appears, in part, to be a function of her belief that the low-income learners she teaches do not have the kinds of life experiences which enable them to think abstractly. She explains, "the lower level, the lower academic kids who are not part of the mainstream, the White majority . . . cannot think abstractly . . . they won't pick up concepts as fast." She believes this will impact on their ability to learn to organize their work:

> I mean poor kids aren't familiar with abstract things. Language is a fairly abstract art, until it's brought down to letters and words. And organization is a fairly abstract thing. If I were to explain the five-paragraph essay to a class of corrective kids, I wouldn't expect them to get it.

Building on this logic, she argues that low-income learners need to have concepts made concrete, so she drills the students on discrete points of grammar and usage. Likewise, she focuses on the names of characters and the sequence of events in the literature she teaches to these students.

Stephanie did not acknowledge discrepancies between what she had been taught and what she practiced; she completed her first year of teaching believing that students in her low-tracked classes were—she told the interviewer—"animals"; they were best suited to the instruction she offered and the school sanctioned. She said that fitting into the school-determined structure originally made her feel secure: "it gave me a guideline to follow. It was helping me plan and see what we'll be doing next month and a couple months down the road." Yet, she maintained its use "because it gives me direction." Stephanie stated that by the end

of her third year of teaching she might wish to modify the school curriculum; yet, those modifications she envisioned would be minor, such as choosing a different novel than one recommended or moving on to the next topic if the current project was working well. Stephanie did not question the choices she or those who had developed her school's English curricula had made regarding instruction for low-tracked students.

Scarlett

Scarlett's talk about the teaching of writing also reflected the influence of the writing process approach advocated by her teacher education program. Like Stephanie, however, her practice was strongly moderated by her views of learners. She appeared unable to adapt the process approach to middle-school learners unlike herself. Therefore, she adopted many of the strategies of the students' previous teacher, even though these conflicted with her espoused ideals. She said, for example, that she did not correct students' written spelling and grammar because she wanted them to "get comfortable with their writing. I don't react to the grammar because that takes away from the creativity. They won't elaborate on their ideas. They'll think grammar and spelling is the most important." However, Scarlett did correct grammar and spelling as a criteria for grading—although she recognized the discrepancy between her beliefs and practices—as it was the students' prior teacher's practice. Scarlett also asked students to write in journals—as her program had suggested—but, she resorted to requiring a minimal amount of pages to be written when students did not respond positively to the opportunity she offered.

Scarlett's difficulty in practicing the pedagogy she espoused is also clearly linked to her difficulty in relating to the low-income students of color whom she teaches (in the county's school with the highest population of poor learners, most of whom were Black). Scarlett explained:

> I'm from a different background than they are. They're mostly minority, Black, and not too wealthy. And I come in dressed like a professional. So, oftentimes, I wonder if that is a barrier, a social barrier.

Further, Scarlett explains that she has had difficulty in adjusting her instruction to meet the students' needs. When students had a problem, she often repeated her explanations and offered a worksheet for practice. She did not change the content of lessons, nor did she modify the pacing. These practices were in contrast to the suggested strategies made in her teacher education program, which had emphasized varying the approaches to instruction when one strategy failed.

Scarlett was not consistently pleased with her teaching and was unsure why the curriculum and instruction advocated by her teacher

education program did not appear to work with the diverse learners she taught. At the end of her first year of teaching, she wondered if she would be happier teaching students like herself; perhaps it would be better, she said, to teach high school students who were, like she had been, excited about becoming writers.

Sena

Like Scarlett and Stephanie, Sena's views of diverse learners as deficient learners dominated her teaching practices. Similarly, her views of teaching and learning were more compatible with the curriculum and instruction of the middle school in which she taught than with her teacher education program. She,too, believed that the life experiences of poor children are not numerous, varied, or stimulating, like those of children from more privileged families. As a consequence, Sena believed that it is difficult for these students to think "abstractly"; therefore they need to both be told about the world of which they have little information as well as require more "concrete" instructional activities. She observed:

> I've seen examples of social class differences. [Some] students like Laurie today didn't know what an anvil was until I explained it. Someone who is wealthier tends to read more, tends to be exposed to more, tends to travel more, therefore is exposed to more .... Poor kids aren't familiar with abstract things or don't know certain things about a culture.
>
> If I were to explain a five-paragraph essay to a class of corrective [low-achieving] kids, I wouldn't expect them to get it until I made them put it together, physically .... I'd probably put a topic sentence on one little paper and then details supporting their topic sentence. Shake it up in an envelope and throw it at them. And then they'd have to put it together and tell me why they put it together the way they did and be able to justify their puzzle piecing. So I wouldn't expect them to understand it until *I* [Sena's italics] made it concrete for them.

The middle-school curriculum Sena practiced differed in fundamental ways from that espoused by her program. While the program emphasized the need to develop a varied curriculum which responded to different learners' needs and encouraged individuals' creativity based on their backgrounds and experiences, Sena—in response to a heavy workload—developed what were on the surface a standard set of lesson plans to use in all of her classes, regardless of students' track. These could be construed as egalitarian (with high expectations for all learners), yet the plans were neither equitable—taking into account different learners' needs and interests—nor standard in a technical way, with all learners reading the same materials and completing the same assignments. Rather, Sena wrote plans which showed the students were conducting the same work, yet she picked and chose from these activities

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and modified them in ways which limited the autonomy, expectations, and understandings of students of low-income learners and students of color, most of whom in her classes were Latino and came to school with Spanish as a first language. Observations of Sena's classes indicated that many Latino students were angry with her and she with them.

While Sena was uncomfortable with the amount of planning she was expected to conduct for different groups, and modified her instruction to reduce this dilemma, she did not evidence discomfort between the curriculum she taught and that which she had been encouraged to teach by her program.

Sheila

Like the other university-educated teachers, Sheila's espoused views of pedagogy were influenced by the writing process approach presented in the university program and by the pleasure and positive reinforcement she had received as a writer. She also experienced difficulties in using the process approach with the students whom she taught. There is an important difference, however, between Sheila and the other university-educated teachers. The writing process approach was effectively implemented in Sheila's classroom because she had high expectations for all of her students; she assumed personal responsibility for her success or failure as a teacher, and sought and acquired help in achieving her instructional goals.

While Sheila also taught in a school with a curriculum emphasizing grammar and mechanics and was required to keep similar records of her students' accomplishments of these discrete skills, her main instructional goal was to put into place a writing program using the process approach advocated by her university program. Unsure of how to meet both the school's requirements and put into effect her personal and professional goals for teaching writing, Sheila sought individual assistance at the beginning of the year from the county language arts supervisor; later in the year, she enrolled in a "how to teach process writing" course taught by the supervisor.

With this support, Sheila was able to negotiate the demands of the school curriculum, the university program, and her own beliefs. Sheila gave all learners, regardless of skill, the opportunity to write multiple drafts, edit their work with peers, and write on self-selected as well as teacher-selected topics. She also began an after-school writing club open for membership to any student who wished to join and she produced an anthology of student writing from her classes for distribution to students, parents, and community members.

At the close of her first year of teaching, Sheila felt her biggest accomplishment was to have turned students on to composing. She observed:

> I've seen kids who [I was worried] would never write come up with beautiful [work]; where they really got honest, beautiful pieces of writing. So, I'm very proud, just the fact they've done it. And now I see that most of them with a push might be able to get excited about it. It's not torture any more. For some it is, but for most, I think they've turned on to writing.

Sheila had believed all students could learn to write; the university program matched her personal pedagogy and she set out to enact those perspectives in her classroom.

The Alternative Route Teachers

The alternative route teachers began their first year in the classroom without formal instruction in the teaching of writing. The perspectives which guided them were based upon their own views of what it means to write and were highly individual. In the case of Carmen, Chad, and Chase, these were mediated through a strong motivation to make content meaningful to students. Clark, who shared with Scarlett, Sena, and Stephanie a feeling of distance from his students, appeared less concerned with students' interests and more concerned with his own difficulties with writing as he planned his English curriculum.

Chad: The Lay Preacher

Chad had been a lay preacher in his Black community church for many years. He believed strongly in the power of the spoken word and that the ability to communicate effectively gives individuals the power to improve their own lives. His personal pedagogy was an orally based pedagogy; he aimed to develop students' abilities to choose the right words, the right phrases; to be effective communicators. The curriculum he developed emphasized "vocabulary—including spelling and the meaning of words." He insisted all students learn to use a dictionary as a "tool to help them communicate." His goal for all learners, regardless of color, income level, or skill with language, was to "empower them, to make them see their ability to write is a very, very effective tool to correct situations where gross communication may have taken place that might affect [their] career."

Chad's personal beliefs that he could empower students through skills of communication were so strong that he challenged the district curriculum emphasis on writing that focused on the drafting of text.

Chad believed so much in the power of the well-chosen word that he spent two classes per week with advanced students requiring the learning of discrete words and the writing of sentences which illuminated their meaning. He continued to teach the advanced English class in this way, despite the principal's disapproval, because, he said, "words are power." Yet, Chad's beliefs also led him to offer a public speaking class to low-achieving seventh and eighth graders. He organized the class around a formal debate with a moderator, speakers arguing for and against various positions, and final votes by the class.

Chad's personal pedagogy worked powerfully in some cases—when he motivated low-achieving seventh and eighth graders to research, write, and present their oral arguments to their peers concerning, for example, the merits of year-round schooling—but, it also failed when he engaged the same poor readers in an attempt to sight-read plays aloud or when he taught basic vocabulary to an 11th-grade honors English class. In the latter cases, Chad did not seem to have the ability to judge the appropriateness of the pedagogical approach to the specific learners.

Chase: The Rock Musician

Chase, an Asian male, was a musician in a rock band and a songwriter as well as being a novice teacher. Chase understood the perspectives of his low-tracked learners as he had grown up in the same urban neighborhood as he now taught. While his mother had provided strong incentives for his school success, he recognized that many of his students lacked such support. Chase understood the dilemmas of poverty and strived to give his students both the belief they could succeed in school and the skills to do so.

Chase enjoyed the creative process, "When you write a song, or you write a poem, or an essay, nobody has ever written the same thing ever before. And before you wrote it, it didn't exist." Chase desired that all his students also feel this way about their writing; he wanted them to understand and enjoy writing as a creative process; therefore, he developed assignments which drew on their interests in popular culture, such as drawing and writing cartoons for an audience of peers. He also wanted students to stop thinking about generating "perfect" text in their first drafts. He believed students' desires for immediate good results needed to be tempered by attention to the process of writing; therefore, he tried to break complex activities of revision into a manageable series of lessons in which students could more slowly and carefully build successful text. He also often drew on the collective strength of his diverse students, frequently engaging his writing classes in peer response to one another's work.

Chase's personal perspectives on teaching reading and writing were strongly influenced by his own experiences in learning to read, play, and write music. Just as a musician works at crafting an entire piece of music from a melody, Chase believed he could assist writers of varying skill in working from an idea for a story or essay to developing a whole successful text. He did not view learning to read and write as a sequence of skills to be mastered; rather he saw them as a composite of skills. Much like playing a musical instrument, where one's knowledge of fingering, tone, and pitch work together, Chase saw writing as drawing on a complex set of knowledge and skills. He believed that instruction for low-skilled student writers should focus on activities of composing rather than on drill and skill. Chase believed diverse learners could work on developing their writing skills as they wrote.

Carmen: The Mother

Carmen, a White female in her forties, had been a homemaker, mother, and an assistant to her husband in several failed businesses for two decades prior to entering the alternative certification program. Carmen's personal pedagogy was strongly influenced by her maternal feelings towards students. She viewed her role with learners as a parental, nurturant one. She wished to have "an impact on kids. Not just as an imparter of information but [to be] some kind of influence in their lives as human beings."

In her first year of teaching, she taught all ninth-grade classes. Carmen's goal was to give her students the skills to go out and make it in the world, to assist students to "be able to express their ideas and feelings in ways that others will be able to understand what they mean," whether this was for "an essay or a letter or to apply for a job or a scholarship." These feelings of responsibility for each student's welfare led her to use class discussions and individual questioning in almost every lesson she taught because she wanted to make sure they all understood the activity and would be able to use the knowledge outside of the school context. She believed group discussions enhanced students' learning because they need actively to transform knowledge in their terms in order to understand and remember it. "I think when they discuss it . . .," she said, "they remember it longer. They take it in as part of their own. They get to own the information."

Carmen's caring approach to teaching led, much to her family's displeasure, to her carefully correcting—for hours every week night and weekend—every student's piece of writing as well as offering personal feedback on their ideas. Further, she graded students on the basis of each one's performance, effort, and level of achievement. She also

integrated contemporary themes into the study of literature and into the students' writing assignments and discussions. Like most mothers, Carmen did not always feel appreciated for the extra efforts she took on behalf of her students and this lack of appreciation disturbed her during her first year of teaching.

Clark: The Aspiring Scriptwriter

Clark, a middle-class White male in his forties, had come to the city years earlier to become a screenwriter and had been involved as a volunteer for several years with a public television station. Since his scripts were not purchased, he had owned a trucking company in the years prior to entering the alternative certification program. He described his own writing as "scriptive . . . taking events I've experienced personally and trying to recreate them on paper so that someone else will enjoy reading it." His personal pedagogy was strongly influenced by the struggle to put his ideas on paper. Likewise, he described his goals for teaching writing as assisting students in being able to "witness an event and then describe the event so that the reader can imagine it, because as human beings we have an ongoing movie in our head."

Because Clark often had difficulty in putting his own script on paper and audiotaped his ideas for later transcription, he believed this would also help students. When he encountered two low-achieving boys who were reluctant writers, he requested they audiotape and transcribe their conversation about a local baseball team. While they enjoyed the taping, the boys found the transcription was difficult and tedious and they were reluctant to continue the project.

In the second semester, Clark used radio plays in his instruction. He believed that by developing low-tracked students' listening skills, he could help them develop their writing skills. He was, however, unable to clearly articulate this pedagogy, and although they enjoyed listening to the plays, both Clark and the students were uncertain of how to draw on the plays to improve their writing skills. Despite his attempts to make writing meaningful and enjoyable for his students, his inability to articulate the links between his ideas and student writing activities and his skepticism that students were working hard at learning led Clark to fall back on chalk and talk and drill and practice worksheets for his low-tracked classes. Clark had few strategies to use when his personal pedagogy failed and resorted to blaming the students for lack of motivation related to their social class, race, and ethnicity.

Discussion

This paper examines the relative influence of professional education and personal perspectives on the instructional practices of beginning teachers trained in traditional and alternative routes to teacher certification. The findings demonstrate that, in both groups, the personal perspectives of novice teachers exert a powerful influence on their professional practice. Professional training or school context appeared to be influential when they were compatible with these personal beliefs.

Three of the four university-educated beginning teachers, Scarlett, Sena, and Stephanie, developed a clear understanding of their program's subject-specific pedagogy for writing, but were unable to adapt this to students unlike themselves. These beginning teachers focused on the social and cultural behavioral differences between themselves and their students and found the source for students' low achievement in the students' family backgrounds and social class positions. Their beliefs about the learning styles of low-income students and learners of color influenced the teachers' instructional decisions and practice more than their pedagogical content knowledge about how students learn to write.

Previous authors have argued that the effects of teacher education programs are "washed out" because beginning teachers are quickly socialized into a prevailing school practice very different from the pedagogical approaches espoused by their university programs (see Zeichner & Tabachnick, 1981 for a discussion). Some may argue that Scarlett, Sena, and Stephanie were overwhelmed by the culture of the schools in which they taught. However, these three university-educated teachers appear more comfortable with the schools' skills-based curricula than the university's process approach because it represents a better fit with their personal perspectives on teaching and learning. It is Sheila, whose views about learners are consonant with the program, who manages to implement the university's approach to teaching writing within the confines of the school's curriculum. These findings seem supportive of Zeichner and Tabachnick's (1985) argument that in most cases, teacher education students never accommodate to the university program's perspectives, but take from the program, or refine through it, the knowledge and skills that fit with their personal point of view.

The alternative route program, in contrast, did not provide teacher candidates with a subject-specific pedagogy for the teaching of writing. The instructional strategies Chad, Chase, Carmen, and Clark brought to the teaching of writing, therefore, developed along idiosyncratic lines. Because this pedagogy was personal, however, these beginning teachers did not appear to have developed independent criteria by which to

evaluate the effectiveness of their instructional strategies. The main sources of the alternative route teachers' approaches to teaching writing were their own personal experiences as writers and as human beings. These experiences provided very powerful sources of instructional representations and became the aspects of writing instruction focused upon by the alternative route teachers.

The cases of the alternative route teachers demonstrate that individuals do develop coherent pedagogical approaches based on their personal experiences. At times, these approaches are similar to professionally based, subject-specific pedagogies. For example, Chase, the rock group member, appeared intuitively to adopt the process approach to teaching writing and justified this on the basis of his song-writing experiences. The main challenges for these candidates are their abilities to step outside of their personal perspectives and to develop criteria to evaluate the appropriateness of their instructional approach. The most striking differences between these two groups of teachers lay in their abilities to relate to the interests and needs of the diverse learners in their classrooms.

Conclusion

We echo Martin Haberman's concerns that

> teacher education can be most readily improved by making teacher training more available to more experienced, older constituencies. This is a most vital need as we consider the needs of urban schools and the competencies required of teachers to work with low-income children and children who represent language and racial minorities. It takes somebodys to make somebodys; nobodys don't make somebodys. Those still engaged in the struggle to develop their own identities are the last people we should seek to place as teachers with children and youth who need confident, competent role models. (1991, p. 285)

In the teachers we studied in the alternate route to teacher certification, we found individuals who held dispositions towards diverse urban youths which combined hopefulness with high expectations for learning and achievement. This was not true in all cases, yet was more apparent in these older, more mature individuals, some of whom were also persons of color, than with the young, White females, persons who are representative of those being prepared to teach today in the United States.

We acknowledge that while the alternate route teachers frequently taught in ways that enhanced the knowledge and skills of students across the spectrum of learners, they also failed to do so at times. This occurred, for example, when Chad taught discrete vocabulary drills to academically talented 11th graders. We also acknowledge the ability of some young, recently graduated teachers to respond to the needs of

diverse students; the university-educated teacher Sheila exemplifies such a case. However, we join Martin Haberman in calling for greater attention to the need to recruit and prepare individuals for teacher certification who are "somebodys," mature individuals with a variety of life and work experiences on which to draw when confronting the challenges of classroom life, individuals who hold critical aspects of pedagogical content knowledge—knowledge about and dispositions towards diverse learners—that will enable them to meet the needs of a growing population of youths of varied racial, ethnic, language, and socioeconomic backgrounds in the United States.

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4

Mathematics in Elementary School Tasks

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The mathematics tasks in traditional elementary school classrooms have been harshly criticized by mathematics educators and others hoping to reform mathematics instruction in the United States (National Council of Teachers of Mathematics, 1989; National Research Council, 1989; Romberg & Carpenter, 1986). Typical classroom tasks, it is argued, treat mathematics as senseless rules and procedures to be memorized and practiced by students without much thought as to the meaning of the symbols on which they are based. The tasks do not focus enough on how mathematical procedures can be applied in the solving of problems or on treating mathematics as something that should make sense instead of being accepted as true simply because the teacher says so. Mathematics educators want students to have instead experiences that will help them come to view mathematics as a set of powerful and flexible tools for thinking and solving problems (e.g., National Council of Teachers of Mathematics, 1989). They want students to have opportunities to explore mathematical ideas in more rich and open-ended ways than is typical in most elementary classrooms. But how can these desired features be incorporated into mathematics classrooms that have a long-standing culture of viewing teaching as telling and mathematics as consisting of computational skills?

In this paper, I describe three dimensions of classroom tasks that seem especially important for thinking about teaching mathematics for understanding. I then describe brief episodes from the classrooms of two elementary school teachers who are attempting to move beyond teaching mathematics as isolated computation by emphasizing student understanding and problem solving. These cases provide sites for illustrating the dimensions of tasks and for raising important questions about teaching mathematics for understanding.

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Some Important Dimensions of Mathematical Tasks

One of the most fundamental criticisms of traditional mathematics instruction is that it treats mathematics as sets of arbitrary and isolated rules and procedures for students to learn. There is little in most traditional mathematics tasks to help students view mathematics as something that can and should make sense. This concern that mathematics should be something that students can understand and make sense of is a central part of current reform rhetoric (National Council of Teachers of Mathematics, 1989; National Research Council, 1989) but the idea is certainly not new. Brownell (1928), for example, criticized associationist models of mathematics learning (Thorndike, 1922), arguing that the emphasis in learning mathematics should be on understanding. More recently, scholars have argued in various ways that students should be making sense of mathematics. Some (e.g., Resnick, L. B., 1986, 1987; Ginsburg, 1983) have argued that students need opportunities to build better links between the formal mathematics they learn in school and the informal mathematics they have learned with understanding in out-of-school settings. Others (e.g., Cobb, 1988; Steffe, 1988) have urged focusing on the meanings that individual students construct in interaction with their physical and social environments. Still others (e.g., Nesher, 1989) have argued that understanding mathematics is a matter of developing cognitive representations for the semantics or meanings of the symbols of formal mathematics. All these perspectives view mathematics as something that should make sense to students, rather than something that is arbitrary and unconnected. Three features of mathematics tasks seem important to consider as a way of unpacking the extent to which they foster sense-making in various ways.

Authority for What is True

Viewing mathematics as something that should make sense involves shifting away from the assumption that particular mathematical ideas or solutions are true or correct simply because the teacher says they are correct or because solutions match those found in the answer key of the textbook. In other words, the authority for what is true needs to shift away from the teacher and the textbook and to the sense-making capabilities of the students. While many scholars agree that traditional mathematics instruction places far too much authority in the teacher and the textbook, they disagree about where the authority should lie and how it should be shifted. For example, Nesher (1989) argues for creating carefully designed embodiments or learning systems (microworlds) which represent important mathematical ideas so that children can use

them as the authority for what is correct. Lampert (1988) and Ball (1988, 1990) argue that authority should be shifted to individual and group efforts at sense-making by modelling classroom discourse after discourse in the mathematics community. That is, students should engage in mathematical arguments with one another to convince one another and themselves about what is reasonable or correct.

Thus there are different ways to shift the authority for what is considered correct away from the teacher. But what is important in thinking about instructional tasks is considering what they imply about the locus of this authority. Are tasks structured in ways that the only way students have of knowing whether the solution to a problem is acceptable is that the teacher says it is right? Or are students expected to give justifications for answers or describe the reasoning in ways that suggest that there are means other than a statement of "right" or "wrong" by the teacher that will allow one to make a judgment about a solution's validity?

Convergence/Divergence

A related dimension of mathematical tasks is the extent to which they are convergent or divergent. Traditional instructional tasks are often criticized as being overly convergent (i.e., one right answer and one right way to complete the task). The teacher usually has a particular answer in mind and works to get students to come to that answer. In contrast, mathematics educators argue, instructional tasks should afford opportunities for students to engage and reflect on the problem solving and mathematical thinking that helps them come to a reasonable answer. Students should come to see that there are often multiple equally valid ways to approach solving a particular problem and different ways of thinking of various mathematical ideas. But arguing for more divergent tasks should not be taken as an anything goes position. While there may be multiple solutions to a problem, some solutions are mathematically acceptable and others are not. Dealing with divergent thinking while still holding to the notion that there are mathematically powerful and accepted ways of thinking can be a difficult tension to negotiate in the classroom, as we shall see in the cases below.

Visibility of Students' Thinking

Finally, a related criticism of tasks in much current mathematics instruction is that they do not allow for students' thinking to be visible. Students' responses are often restricted to verbal or written responses that do not reveal the thinking leading to their answers. But, if as is

suggested by current cognitive theories of learning and instruction (e.g., Glaser, 1984; Norman, 1980; Resnick, R.L., 1985), students actively interpret and modify what they learn from instruction, rather than passively absorbing information presented by a teacher, their ways of thinking and making sense of instruction must become a more central part of instruction. Only by somehow making students' thinking visible, for example through their explanations or written work, can teachers and students become more aware of what they are learning.

These three dimensions of classroom mathematics tasks—authority, convergence/divergence, and visibility of student thinking—serve as a frame for thinking about the two cases of mathematics teaching presented in the remainder of the paper. Each of the cases depicts a teacher who in one way or another is trying to move beyond the teaching of mathematics as isolated computational skills.

Case I: Susan Meadows[1]

Susan Meadows teaches second grade in a large suburban school district in California. Her school serves a diverse population, both in terms of socioeconomic status and race. The district in which she teaches has recently adopted Open Court's *Real Math* (Willoughby, Bereiter, Hilton, & Rubinstein, 1987) as its elementary school mathematics textbook and expects all teachers to follow the text closely. District personnel selected *Real Math* because they viewed it as consistent with the state's mathematics framework, which calls for an emphasis on teaching mathematics for understanding. *Real Math* is quite different than most basal mathematics texts, with an emphasis on a variety of real-world applications and opportunities for students to reflect upon mathematical ideas as well as providing more traditional practice in computational algorithms (see Remillard, 1990, for a review of *Real Math* and other mathematics texts). This is Meadows' first year using the new textbook and she likes its emphasis on problem solving, but is still not comfortable with all aspects of it. She has been told by district personnel to follow the book closely this year—to give it a chance—even though it seems quite different in some ways to what she has done before.

[1]I have been examining Susan Meadows' mathematics teaching as part of a study of policy and practice in California being conducted by researchers from the Center for the Learning and Teaching of Elementary Subjects and the National Center for Research on Teacher Education (Cohen et al., 1990). This research is highly collaborative and my thinking about Meadows' teaching has been shaped by my colleagues on that project: Deborah Ball, David Cohen, Ruth Heaton, Penelope Peterson, Dick Prawat, Janine Remillard, Nancy Wiemers, and Suzanne Wilson. The teachers' names, Susan Meadows and Jane Nielson, are fictitious.

The part of a lesson I describe here involves a "Thinking Story" from the book *Measuring Bowser* that accompanies the *Real Math* text. Thinking Stories are narratives filled with questions and problems of various sorts that students are to reflect upon and discuss as the teacher reads the story. The stories often include questions intended more as sites for discussion for various important mathematical ideas than as opportunities to lead students to learn particular strategies or to give particular answers. In other words, the tasks they pose provide opportunities for divergence and visibility of student thinking.

On the day I observed, as soon as the Pledge of Allegiance and announcements were over, Meadows had students go to the back of the room to sit on the floor to listen to a story from the Thinking Stories book. Students went to the rug area to sit as Meadows called them by tables. Meadows read a story in which Mr. Sleeby needs to paint a room. He does not want to do it, so Mrs. Nosho suggests that he do half the job one day and the second half the next. Meadows continued reading:

> "Half the job each day," said Mr. Sleeby. "That sounds like an excellent idea. I'm going to try it. I think I'll start today with painting the walls in this room."
>
> "Good luck," said Mrs. Nosho. "I'll be back in a week, and I expect I'll find this house in much better shape if you follow my advice and do half a job every day."
>
> Mr. Sleeby got out paint, brushes, and a roller, and he started painting the walls in that room. **How many walls should he paint the first day if he is going to do half the job?** (Willoughby et al., 1985, p. 57)

At this point, Meadows called on Mark, who said, "two." Meadows responded, "good" and continued reading. The story went on to say that Mr. Sleeby did paint two walls because half of the four walls to be painted is two. But on the next day Mr. Sleeby figured he had two walls to paint and he was going to do half, so he painted one of the walls. Meadows read, "Do you think that is what Mrs. Nosho meant?" Lisa said, "He's already done two, and there's two more to do, so he should have painted two." Meadows said "hmm," in a noncommittal way, sounding as if she might not have understood what Lisa had said. Meadows then read the next question from the book: "What should Mr. Sleeby have done instead?" (note that Lisa just answered this question) and called on Samuel, who said Mr. Sleeby should have painted two walls. Meadows said, "okay" and asked if anyone else had other ideas. Different students volunteered: "painted a whole wall," "painted all the walls at one time," and "doing half the paint on both walls." Meadows accepted each of these in turn with a noncommittal "hmm," except the last, which she repeated. There was no discussion of the various alternatives or of which might be more or less appropriate.

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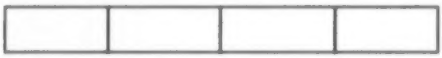
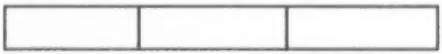
Meadows then said, "Okay, let me give you a problem, see who's really thinking today" and read the following problem: "Mr. Sleeby—now think of this in your mind like you're drawing a picture—Mr. Sleeby wanted to build a fence that was three meters long in his backyard. He built one meter the first day. The next day he built half as much as the day before. And the next day he built half as much as that. Is the fence finished?" Meadows called on Carol, who said, "no." Without comment, Meadows read the next question: "Does Mr. Sleeby have more or less than one meter to build?" and called on Brian who responded, "less." Meadows asked for other answers, getting "one meter" and "more," at which point she asked, "Why do you say more?" The student said something about doing only half as much as the day before which was only half a meter. Without commenting on this explanation Meadows called on another student, Joe: "What was your idea?" Joe responded, "He has about one meter to go because he did two days of a half meter." Again, Meadows made no comments on the student's response, but had Kim come up to the board to "draw me a long line, and divide it into three parts." Kim drew a line, to which she added sides and a bottom to make a rectangle:

Meadows said, "And let's pretend this is the fence, and it's three meters long. Now can you divide it into three parts?" Kim drew 3 dividing lines into it, resulting in 4 parts:



Other students mumbled, one saying, "that's four," prompting Kim to look at her drawing a moment, then erase the fourth part:



Kim started to add another dividing line in the third section when Meadows directed her to count the parts. Kim counted the parts and, with prompting from Meadows, decided she had enough. (Note that what Meadows refers to as parts are the individual meters making up the three meters of the fence to be built. The slipperiness of the language Meadows uses with this representation is potentially problematic, but is not the focus of this analysis.) At this point, Meadows said, "Let's pretend that this is the fence, and it's three meters long. Alright, listen

to the problem and she's [Kim] going to draw in what the problem says. Okay, he has a fence that's three meters long in his back yard. He built one meter the first day. Alright, shade in one meter the first day." Kim shaded in the first section of the picture:

Meadows then read the next sentence of the problem: "The next day, he built half as much as the day before," and asked Kim what she should do, but Kim was not sure. Mrs. Meadows asked others for help and Donna stood up and shaded half of the second section:

Meadows asked, "How many agree?" and about half of the students raised their hands. Meadows summarized what Donna did by saying, "So he did half as much. That means half of that one." Meadows continued reading the problem: "And the next day, he built half as much as that." Samuel came up and shaded a fourth of the middle section:

Meadows asked how many agreed and about a third of the students raised their hands. At this point, Meadows tried to get the students to identify the section that Samuel just shaded as a fourth: "Here's a whole part [points to first shaded section representing one meter]. Here's half of that whole part [pointing], the next day. And then there's a? how much here? [pointing to the small shaded area representing one fourth meter]" Students responded with various answers; two or three seemed to be saying "fourth." Teacher asked leadingly, "Half of a half would be?" and students responded with "fourth" and "whole." Teacher proclaimed, "a fourth! Right!" and drew a "pizza pie" divided into halves, then fourths:

As she drew, Meadows asked, "Half of a half, we're dividing it into?" Students responded with "fourths" to which Meadows said, "Same thing with a fence," and went on to read the next problem:

> Mr. Sleeby started reading a book—Now think of a book in your mind. The first day he read for two hours. The next day he read half as long. The next day he read half as long as that. Did he finish reading the book on the third day?

Meadows commented, "Now, they're going to try to trick you on this one," and called on Morgan, who said "yes." Meadows then asked, "How many think yes?" (about half of the students raised their hands); "How many think no?" (about half raised their hands), and "How many think they don't know?" (about two raised their hands). Mrs. Meadows asked Samuel why he said "don't know" and Samuel explained, "I forgot how long the book taked [sic] to read," to which Meadows responded, "Right! They didn't tell us everything, did they? They didn't tell how many pages, right. So we don't know, we really don't know. So they kind of tricked us on that one."

At this point, about 15 minutes after they started, Meadows had the students go back to their seats and she moved to the front of the room where she led the students through a page on fractions in their textbook.

Comments on Case 1

This episode from Susan Meadows' mathematics lesson illustrates some important difficulties teachers face as they try to alter the tasks in their classrooms. The task as presented in the book seems directed toward having students make sense of the situation presented—to reflect on the problems Mr. Sleeby created for himself by his misinterpretation of Mrs. Nosho's suggestion of doing half a job each day. There are a wealth of important mathematical ideas here concerning limits and density that might be explored. But whereas Meadows seems to accept the notion that the questions in the book might have more than one answer—she seeks and readily accepts the contributions of different students—she does not seem to have available ways to help the students think about which contributions are reasonable and which are not. For example, when asking what Mr. Sleeby should have done instead of painting one wall on the second day, Meadows accepted both reasonable and unreasonable student responses with the same noncommittal "hmm" and then went on to the next problem. Later in the lesson, when talking about what fraction of a meter of fence had been built each day, Meadows was quick to accept and reinforce correct answers of students, and to lead them toward the desired response. In terms of convergence/divergence, Meadows seems to be caught at one extreme or the other—either accepting any response or guiding students to one particular response. In terms of authority for what is mathematically correct or reasonable, Meadows seems to have available only the alternative of establishing truth by proclamation; she can tell students whether their answers are

right or their solution appropriate, but she does not seem to have available ways of shifting the authority for what is reasonable to the students. Thus, she is left with no way to deal with questions for which the textbook suggests "answers will vary."

Case II: Jane Nielson

Jane Nielson teaches first grade in a culturally diverse school in Michigan. She puts a premium on getting students to think, arguing that young children are capable of and enjoy thinking about abstract ideas. The lesson described here took place on an April morning, just after a discussion about homonyms. The students were clustered around Nielson on the carpet as she began to tell a story about a woman who owned a bicycle repair shop. The woman in the bicycle repair shop, Nielson explained, needed to order tires to replace the ones she sold.

> So every night she sat down and looked at her receipts. Well, she found that five people had brought in bicycles—we're talking two-wheelers, not tricycles—five people had brought in bicycles that needed two new tires. You know usually just one of them goes, but these people needed two new tires. Five people brought in bicycles that each needed two new tires. So, she's saying, "Okay now let's see, I used this many tires, so I need to order more tires from the factory to replace those." How many tires did she replace and repair?

Nielson called on Laura, whose hand had gone up instantly. Laura said, "She needs to have 10 of them." Nielson asked how Laura figured that out so quickly, to which Laura replied, "'cause I know 5 equals [sic] 5 is 10 and that there's five people coming in, so I knew it would be 10." As Laura spoke, Nielson wrote on the board:

$$\begin{array}{r} 5 \\ +5 \\ \hline 10 \end{array}$$

She asked Laura, "because, were you thinking this [points to top 5] is the front tire and this [points to bottom 5] is the back tire?" Laura nodded her head, and Nielson asked Billy how he had figured it out. Billy said he did it the same way, to which Nielson responded with mock surprise and asked if anybody figured it out a different way. Several more students said they did it the same way as Laura, until Ken volunteered: "8 plus 2 equals 10." Nielson responded questioningly, "Yes, but what does 8 plus 2 have to do with 5 bicycles, Ken? Could you help me understand that?" When Ken did not answer, Nielson proceeded to draw a bicycle on the board, saying, "Okay that's one person's bicycle. How many tires, Ken, did that person pick up?" Ken responded appropriately

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with "2;" Nielson wrote a 2 under the bicycle. Then she drew another bicycle, saying, "Ok, let's see, there's another person that came in . . . . How many tires, now? How many more tires, Angel?" to which Angel responded "2." Nielson wrote another 2 under the second bicycle and a + in between the two 2s, saying "2, so now we have 2 plus 2. How many have we used?" After another student responded, "4," Nielson continued to draw bicycles. After drawing a total of 4 bicycles, she stopped and asked whether they were finished. One of the students said that no, five people brought in bicycles, so Nielson drew a fifth bicycle. She then said, "So this picture is 2 plus 2 plus 2 plus 2 plus 2," simultaneously writing to the side of her bicycle picture:

2+2+2+2+2

She then counted the 2s in her number sentence, saying "one person, two, three, four, five equals?" She waited a moment for several students to raise their hands, calling on one who answered "10," and Nielson completed her number sentence by writing =10. Then just below, she wrote

5+5=10

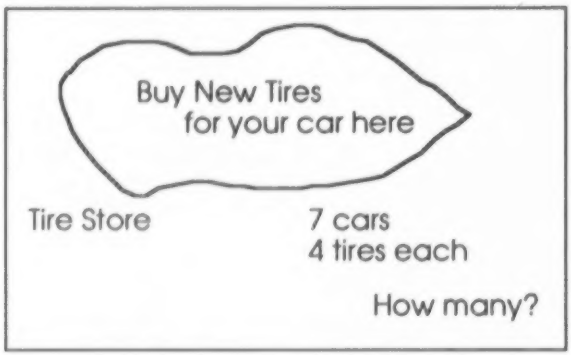
As Nielson wrote, she said, "The way Laura and Billy did it, they thought [pointing to front tires of bicycles] 1, 2, 3, 4, 5 front tires [writes 5 +] plus [pointing] 1, 2, 3, 4, 5 back tires [writes 5=] and that equals 10. Are both ways ok?" Several students said yes.

At this point Nielson reached to get some large sheets of paper to hand out for the next problem, but called on Alex, who had his hand up. Alex came up to the board and said he thought of counting 2, 4, 6, 8, 10, pointing to each bicycle as he counted. Nielson commented, "It is in a way counting by 2s isn't it?"

Nielson then proceeded to describe the next problem, speaking deliberately to signal to students the need to pay careful attention: "Now, I'm going to give you a little different problem. Listen carefully. This time it's *not* going to be a *bicycle* repair shop. It's going to be a *car* store, or a tire store that sells tires for cars. How many tires on each car, Nigel?" Nigel responded, "four," and Nielson continued:

> Four. The person that owns the tire store for cars sits down at night, just like the lady in the bicycle repair shop. And figures out what he has sold. He's sitting down at the end of the day, seven people have brought in seven cars. And all seven cars needed four new tires. I want you to draw a picture and then write a number sentence, or two number sentences. Tell me how many tires he sold that day. Seven cars, four tires each [holds up four fingers]. Please don't forget your name on the back. Draw a picture and write a mathematical sentence for it.

Nielson handed out the newsprint to students, who went to work on the problem at their desks, arranged in clusters to form "tables" of four to six students. Most of the students conferred a bit about the task before getting started. As the students started to work, Nielson wrote the problem on the board:



As the students worked on their drawings and number sentences, Nielson circulated about the room, pausing to question students about what they were doing and to provide guidance when needed. The students knew they needed to have Nielson see their work when they were finished before placing it in the basket for completed assignments. In most cases Nielson had each student explain his or her drawing and accompanying number sentences.

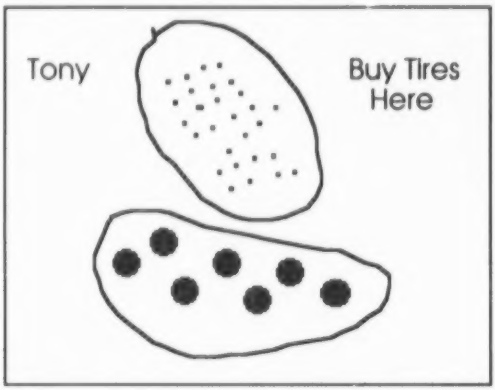
Three of the interactions Nielson had with students help clarify how she conceived of and structured the task for students. At one point shortly after students had begun to work on the car tire problem, Nielson went over to four girls at a table and said,

> Ok. Now, explain to me how you girls are doing this, because I don't understand your drawings. What are you thinking of here? You're thinking seven cars with four tires each, so I don't quite understand why you have one, two, three, four, five, six, seven inside this circle here [pointing to one girl's drawing]. Could you explain it to me?

When the girls were unable to explain, Nielson said, "Do you think you need new papers to start again?" The girls responded, "yes," and Nielson took their papers as she said, "I do too, because one of you did it and I think the rest of you . . . [implied: copied what she did]. It's important to think for yourself, isn't it? Thinking for yourself is very important. Now *think* seven cars, each with four new tires." At that

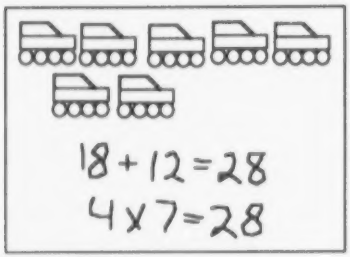
point the girls got right to work on their new papers without discussing with one another. All of them ultimately completed the problem to Nielson's satisfaction.

A second example is Nielson's interaction with Tony. Tony's drawing looked approximately like this when Nielson first walked over to his seat to talk about his work:



Nielson asked Tony to explain his picture to her and Tony responded, "These are the tires [pointing to the 28 dots] and these are the ones buying the tires [pointing to the 7 larger dots]." Nielson then asked, "How are you going to let me know which ones go with which ones?" Tony started to write "tires" and "cars" next to the dots and Nielson commented, "Oh, you're going to label your circles. All right." She then went on to talk to another student. A bit later, when Tony showed his completed work to Nielson she said, "Okay, Tony I want you to explain this to me, because I'm not quite sure about this." Tony explained, "These are the cars in line [points to the 7 dots in lower circle] and they're coming, they're taking 4 tires at a time [points to dots in upper circle]." Nielson asked Tony how he knew how many dots to draw, and Tony explained that he held up a finger for each 4 dots to keep track as he counted them. Nielson commented, "Oh, that was a good way to do it," and handed Tony's paper back so he could put it in the basket.

Nielson's interaction with Tony illustrates how she got a student to explain a solution strategy that was acceptable but not the strategy the teacher envisioned. Her interaction with Nigel illustrates a typical (for her) way of dealing with an unacceptable solution strategy. When Nielson approached Nigel, his paper looked roughly like this:



Nielson asked, "Ok, tell me how you did it, Nigel," to which he responded, "I went 18 plus 12 equals 28 [pointing to number sentence]." Nielson asked Nigel to show where the 18 was in the drawing. Nigel started to count the tires in top row of cars, but realized that there were not 18. Nielson queried, "Do you see why I'm confused?" and Nigel nodded his head, yes. Nielson directed Nigel to cross out the 18 + 12 = 28, which he did. She pointed to the first car and said, "Okay, how many tires are here? and Nigel responded, "4." Nielson directed Nigel to write a 4. She pointed to each car in turn and Nigel wrote +4 for each car. After pointing to each of the cars for which Nigel had written 4+4+4+4+4+4+4, Nielson pointed to the 4s and counted, "one, two, three, four, five, six, seven" and asked, "Is that how many you need?" Nigel did not respond and Nielson asked, "How many cars do you have?" at which point Nigel wrote an equal sign, implying that he had written enough 4s:

$$4 + 4 + 4 + 4 + 4 + 4 + 4 =$$

Nielson asked, "Okay, and what does it equal?" to which Nigel responded "28," as he wrote 28 at the end of his number sentence. Satisfied with Nigel's addition number sentence, Nielson then took Nigel's pencil and asked, "How many groups of 4 do you have? How many groups of 4?" as she wrote:

$$\text{x } 4 = 28$$

Nigel responded questioningly, "7?" Nielson confirmed, "7 groups of 4," writing 7 to complete the number sentence she had written:

$$7 \text{ x } 4 = 28$$

She continued, "I see that you were trying to write a multiplication sentence down here [pointing to the Nigel's 4 x 7 = 28] Okay. Put your name on it." She then left Nigel to go to another student.

Comments on Case 2

Jane Nielson structured the tasks in this lesson in ways that permitted students to express their thinking and solution strategies—to make student thinking visible. In the group interaction about the bicycle problem, she asked Laura how she got her answer of 10 tires and she asked Ken how he thought 8 plus 2 was related to the five bicycles. In her interactions with individual students as they worked on the car tire problem, Nielson routinely asked students to explain the reasoning behind what they drew and wrote on their papers, as evidenced by the three examples described above. In addition, the task for the car tire problem required students to draw a picture to show how they solved the problem—another way of making their solution strategies visible.

Through her structuring of the tasks and response to students, Nielson also conveyed the message that there are multiple ways to think of problems and that it is acceptable to solve problems in different ways as long as they make sense mathematically. This expectation of divergence showed up, for example, when she asked for the different ways students solved the bicycle problem and wrote both 2+2+2+2+2=10 and 5+5=10 to represent different strategies, pointing out that both were acceptable ways of solving the problem. As students showed her their written work on the car tire problem, Nielson accepted different number sentences, drawings, and explanations, as long as they made sense mathematically. Her interaction with Tony was a good illustration of this acceptance: Tony's drawing did not immediately make sense to Nielson as a reasonable solution to the car tire problem, but she accepted and praised his verbal explanation of the counting strategy he used to keep track of how many groups of four he had.

When students offered explanations that did not make sense mathematically, however, Nielson became quite convergent in her interaction—shifting to the pattern of leading the student through a particular explanation. This happened, for example, when Ken offered 8 plus 2 equals 10 as a solution strategy for the bicycle problem and when Nigel offered 18+12=28 as a solution of the car tire problem. In both cases, Nielson led the student step by step through a more acceptable solution strategy. So, Nielson accepts and encourages divergent solution strategies, but only if they are mathematically reasonable; if they are not, she models or leads the student through an acceptable strategy. This contrasts with Susan Meadows, who accepted both reasonable and possibly unreasonable responses when she was eliciting divergent responses, then becoming quite convergent in modeling a particular solution regardless of whether students were thinking of the problem in a mathematically reasonable way.

This episode in Jane Nielson's classroom raises interesting questions about where the authority for what is mathematically true or acceptable lies in her instructional tasks. Hers is clearly not a classroom in which students are expected to accept mathematical solutions or procedures as being correct or acceptable simply because there is a right way to do things. The fact that students are expected to explain their responses suggests that in this classroom mathematics should be viewed as something that can and should make sense. At the same time, Nielson clearly gives her stamp of approval on particular ways of thinking, and provides these ways of thinking if students are having difficulty or do not come up with them on their own.

Revisiting the Features of Mathematics Tasks

These two cases provide a glimpse of the complexity of teaching mathematics in powerful ways. Susan Meadows and Jane Nielson both want their students to be able to do more than carry out computational algorithms efficiently. They want their students to develop more powerful understandings of mathematics and the ability to solve problems. The mathematics tasks in their classrooms reflect these goals. Meadows has chosen to use the Thinking Story activity from her district's new textbook on the grounds that faithfully carrying out the textbook's activities will foster mathematical understanding in her students. Nielson has devised mathematics activities that involve problem solving and the representing of mathematical solutions in various ways. The three features of mathematics tasks with which I began this paper have provided a useful lens for examining these classroom activities more closely. I close the paper by revisiting these three features looking across the two cases.

Authority for What is True

There is widespread agreement among those calling for changes in the way mathematics is taught that we do not want students to view mathematics as an arbitrary set of rules to be accepted solely on the authority of teacher or textbook (National Council of Teachers of Mathematics, 1989; National Research Council, 1989). We want students to view mathematics as something that makes sense and for them to be able to make judgments about what is mathematically reasonable. But it is not so clear how such a shift should occur in classrooms, nor what sorts of resources teachers would need to make the shifts. The cases in this paper shed light on the issue of authority in different ways.

The example from Susan Meadows' teaching illustrated how changes in classroom tasks, without accompanying changes in more fundamen-

tal assumptions and beliefs, can fall short of engaging students in meaningful interactions about mathematics. Meadows tried to faithfully implement the discussion-oriented activity in her new textbook. She asked the questions in the teachers' guide and let students offer various responses. But she lacked a perspective on mathematical authority or an understanding of the mathematical ideas involved that would enable her to support her students in actively making sense of the problems they were discussing. She seemed not to have the resources to deal constructively with the divergent student responses evoked by the textbook's questions. Not having an alternative to simply declaring answers correct or incorrect, Meadows appeared to be caught between the extremes of anything goes and simply telling knowledge to her students.

In contrast, Jane Nielson has clearly tried to shift some of the authority for what is reasonable or correct to her students. She expects students to offer explanations of their responses and solution strategies, requiring that the mathematics makes sense to her and to them. At the same time, Nielson maintains clear control over which explanations and solutions get accepted as reasonable. She does not hesitate to tell students their explanations do or do not make sense. She has struck a balance for the locus of mathematical authority that works for her. She has found a way to deal with a critical tension inherent in trying to teach mathematics for understanding—the tension between wanting students to make personal sense of the mathematics they are learning and still hold standards for what is mathematically true or correct according to the larger society and mathematics community. One could imagine placing even more of the authority for what is acceptable or reasonable mathematically in the hands of the students, expecting them to do more of the deciding as individuals or a group what mathematics they are going to accept. What is not so clear is the effect of shifting the locus of authority on the learning of students or the attitudes and beliefs about mathematics they develop. It is important that teachers and researchers alike continue to struggle with this tension between personal sense-making and learning generally accepted mathematics.

Convergence/Divergence

Complementing the issue of who decides what is reasonable or correct is the issue of whether classroom tasks provide opportunities for students to express alternative solution strategies and explanations. For fostering the expectation that students should have confidence in their mathematical knowledge because it makes sense, not simply because the teacher says it is true, means that different students will probably make sense of the mathematics in somewhat different ways. So

the convergence/divergence of student thinking is another aspect of the tension between students' personal sense-making and the learning of accepted mathematics. We saw Susan Meadows struggling with this issue. The Thinking Story activity she used was clearly designed to elicit a variety of student responses and thinking about the presented situation—Mr. Sleeby's misinterpretation of doing half a job each day. But whereas Meadows seemed to realize that students could have different explanations and opinions, she had no way of bringing them together into a coherent conversation to foster mathematical understanding. Jane Nielson solved this dilemma by accepting various student solutions only if the student could explain them to the teachers' satisfaction. To the extent that teachers move away from presenting mathematical procedures as inviolable algorithms (e.g., that there is one right way to do long division) they must develop reasonable ways to deal with divergent student thinking and solutions. The flag that "answers will vary" found in many textbook activities in which students are encourage to express alternative solutions or explanations falls far short of providing teachers with the resources for dealing with varied responses constructively.

Visibility of Student Thinking

Finally, it seems critical that if classroom tasks are to foster mathematical understanding, they must somehow make visible the mathematical thinking of students. When understanding rather than efficient completion of computational exercises becomes the goal of mathematics instruction, it is changes in students' thinking that become focal. Only by somehow making this thinking visible in the classroom can that thinking become the target of instruction and classroom conversations. Jane Nielson's lesson showed two different ways in which classroom tasks or activities can be structured to make students' mathematical thinking visible. The first is through discourse. By asking for students' various solutions to problems posed and expecting explanations of those solutions, Nielson provided a way for students to talk about their mathematical thinking. They verbalized their solutions and explanations so that the teacher and other students could observe, evaluate, and shape them. This kind of verbal interaction around mathematical ideas was strikingly absent in Susan Meadows' discourse with students around the Mr. Sleeby story. Students did offer various responses and solutions, but the discourse was not structured in a way to allow them to explain their thinking and engage others in it. The second way Jane Nielson enabled students to make their thinking visible was through their written work. She had them draw pictures and write number sentences to represent their solutions to the car tire problem. This

written work was then supported by students' verbal explanations of what they had done, providing the teacher with a window into each students' mathematical thinking about the problem. As teachers shift their focus away from isolated computation and toward mathematical understanding and problem solving they will have to find windows like these into students' thinking.

Highlighting these three dimensions of classroom tasks does not provide a simple path to teaching mathematics in the more powerful ways envisioned in the current documents of reform (National Council of Teachers of Mathematics, 1989; National Research Council, 1989). Rather, they should be thought of as aspects of mathematics tasks that teachers must somehow attend to in shaping their mathematics teaching to better foster student understanding. There are multiple ways to shift the authority for what is mathematically reasonable onto the students' sense-making capabilities, to deal with the tension between the need for convergence and divergence of mathematical thinking, and to make students' mathematical thinking visible and accessible in classrooms. Teachers and researchers must continue to work together to learn from one another in their attempts to incorporate thinking about these aspects of mathematical tasks into their teaching of mathematics in richer and more powerful ways.

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5

Learning in Classroom Settings: Making or Breaking a Culture

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The purpose of this paper is to explore factors that support and/or constrain learning in classroom settings from an interactive sociolinguistic perspective. Underlying the argument that follows is a view that any perspective is a particular lens through which the world of the classroom can be examined. In other words, a perspective entails a particular view of the world, a descriptive language, and a way of selecting and interpreting phenomena (Popper, 1963). Therefore, before we can discuss the factors that support and/or constrain learning in classroom settings, we must describe the approach taken and the framework used to guide our research.

The discussion in the paper is presented in three parts. In the first part of the paper, we explore theory-method relationships involved in the study of classrooms as cultures and learning in the cultural context of the classroom. In the second part, we present a series of theoretical concepts that help to define the classroom as culture. In the final section, we raise questions about how to see learning in the everyday events of the classroom.

To ground the discussion in both theory and practice, we explore factors that support and/or constrain learning in a fourth-fifth grade classroom. Our exploration focuses on a 3-month period in which daily observations were made during science and social studies instruction (approximately one hour daily).

What is unique about this period of life in this classroom is that it was made problematic by the introduction of eight substitute teachers. The introduction of the substitutes into the ordinary pattern of classroom life led to clashes between students and the substitutes about ways of

performing classroom tasks through which learning was assumed to occur, and ways of participating in classroom life. In other words, the existence of the substitutes created a natural experiment in which factors that support and/or constrain learning were made visible.

Studying Classrooms as Cultures: Theory-Method Relationships

Central to our perspective is the view of classrooms as cultures in which members of the social group (teachers, students, and others) develop common and patterned ways of (a) perceiving what it means to participate in a particular room with a unique group of people who affiliate over time to accomplish goals (e.g., learning), (b) acting and interacting within and across events and time that make up life in this classroom, (c) interpreting the expectations and actions of members of the social group, and (d) evaluating what is accomplished within and across the everyday events of classroom life of the group (cf., Goodenough, 1981; adapted to classrooms—Collins & Green, 1990; Green, Kantor, & Rogers, in press; among others). From this perspective, every classroom is a social group in which students and teacher are constructing and reconstructing a "class culture" within a "schooling culture." Teaching and learning, therefore, are viewed as social-interactive processes that must be explored within the situation (classroom) in which they occur. Comparisons across classroom are possible once the situated dimensions of the life of the social groups are understood.

To explore the situated nature of teaching-learning processes, researchers interested in the study of classrooms as cultures explore what members need to know, understand, interpret, perform, and produce in order to participate in socially and culturally appropriate ways in classroom life (Heath, 1982). In addition, to understand how the interactions among members of the classroom group influence meaning construction and interpretation in and across events of classroom life, the researcher must examine the interplay of linguistic, social, and contextual presuppositions people bring to an event to create the conditions for learning (Gumperz, 1986).

Conceptualizing Classrooms as Cultures

The discussion above describes the theory-method relationship for studying classroom life. In this section, some key concepts will be presented that build a framework for understanding how the classroom as a culture influences what can be learned and/or is displayed as learning in the classroom.

These concepts are different dimensions of a holistic process. Each draws upon a common essential phenomenon—the social construction of knowledge within the life-world of a social group. For heuristic purposes, the concepts will be presented individually. In the life-world of a social group, these dimensions overlap and/or co-occur. To contextualize these concepts, examples from life in a fourth-fifth grade classroom during instruction in social studies and science will be presented.

Concept 1: Classrooms as Settings—Class as Social Group

Before the people who will inhabit the space enter a classroom, this space is merely a room in the social institution called school. As such, it has only potential but serves no purpose unless used by people for particular purposes (e.g., education). Once a group of people enters and affiliates over time, this room becomes a purposeful environment for a social group or class. Viewed in this way, classroom is a setting, and class is a social group constructed by individuals (a person called "teacher" and other individuals called "students") as they affiliate over time and develop ways of working together and interacting to meet the societally determined goals (i.e., curriculum goals, instructional goals) (Collins & Green, 1990; Green, Kantor, & Rogers, 1990). Each group (class) can be distinguished from other groups by exploring its goals, purposes, and opportunities reflected in ways of engaging in daily life.

Concept 2: Classroom Life as Holistic

Another key concept is the view of the life of a social group as holistic. Holism refers to the "seamless" nature of everyday life and to the part-whole relationship among the events of everyday life. Life is not viewed as a series of discrete bits but as a continuous ebb and flow of activity in which some events are recurrent, others are closely related or overlapping, and still others are separate. Events in classroom life, therefore, have a history, and in most instances, a future. Some events may build on previous ones (on the same day or other days), while other events may be discrete and nonrecurrent (a special speaker; a party).

Class, as a social group, does not end on a given day of the week but at the end of a specified period of time (the end of the year) when members of the social group disband. Viewed in this way, life in the classroom is holistic for members. Class is a living entity (a social group), and not merely a setting (classroom).

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Concept 3: Experience as Continuous and Intertextual

To understand the holistic nature of classroom life and what is learned from participating in this life-world, we must explore the interrelated nature of classroom events and the continuity of experience for learning in classrooms (Edwards & Mercer, 1987). One way to examine the continuity of experience is to identify the substructure of classroom life (i.e., the boundaries of the units of instruction and classroom events) (Green & Meyer, 1991).

In the fourth-fifth grade classroom, experiences were related to units of instruction that occurred across time and focused on particular curriculum areas (e.g., science, social studies). From the end of Easter vacation (in March) to the end of school (in June), two units of instruction occurred in this class. The units were a marked part of the day and occurred after reading period and prior to recess (approximately 45 minutes).

Figure 1 provides a graphic representation of the two units across time. As indicated in Figure 1, the science unit occurred across 31 days

Figure 1
Science and Social Studies Units: Time of Occurrence

Science _____ Social Studies

1	8	28	30	1	11
"Pre-Mealworm"	Mealworm & Body Parts Studies		Presentations Wrap-Up	Introduction Explore Topics	

and the social studies unit across 11 days. The continuity of experience in these units was related to time spent, types of events (activity) in which students engaged, and the opportunities for participation. Each unit had subevents that were inter-related. For example, the science unit was divided into four distinct phases of activity: "Pre-mealworms," mealworm and body parts studies; presentations; and wrap-up. The social studies unit had two phases: introduction of topics (settlement of Ohio for fourth grade, American Revolution for fifth grade) and exploration of these topics (e.g., book study, films, and discussions).

The units can be viewed as bounding particular types of continuous experience. Within a unit, the teacher and students engaged in particular types of events that formed an "ever-expanding foundation of shared knowledge" (Edwards & Mercer, 1987, p. 5). Each phase, therefore,

served a particular purpose in the construction of knowledge that culminated in presentations and construction of conceptual maps of knowledge of mealworms.

Another way to view continuity of experience is as "intertextuality." Intertextuality has been captured succinctly by Bloome (1989):

> Whenever people engage in a language event, whether it is a conversation, the reading of a book, diary writing, etc., they are engaged in intertextuality. Various conversational and written texts are being juxtaposed. Intertextuality can occur at many levels and in many ways.
>
> Juxtaposing texts, at whatever level, is not in itself sufficient for intertextuality. Intertextuality is a social construction. The juxtaposition must be interactionally recognized, acknowledged, and have social significance. In classrooms, teachers and students are continuously constructing intertextual relationships. The set of intertextual relationships they construct can be viewed as constituting a cultural ideology, a system for assigning meaning and significance to what is said and done and for socially defining participants.

As reflected in this definition, the events of classroom life can be viewed as texts that are written by teacher and students in and through their actions and interactions, oral as well as written (Green & Meyer, 1991; Weade & Green, 1989). Interpretations and understandings of one event serve as a basis for future events.

Green & Meyer (1991) explored intertextuality in a high school English class. They found that events often occurred across days and were not bounded by individual day. To understand an event, it was necessary to identify its boundaries and to locate its place in the larger stream of classroom life. While each event appeared to have discrete boundaries, an examination of the potential relationships between and across events showed that the majority of the events in this classroom were inter-related and involved what Edwards and Mercer (1987) called an "ever-expanding foundation of shared knowledge" (p. 7).

Concept 4: Referential Systems of Communication

The discussion of continuity of experience has focused on structural and textual issues that are visible in the life of the classroom. Another less visible but important element is the continuity of experience of communicating in daily life and of meaning construction. Edwards & Mercer (1987) capture communicative elements of continuity of experience in their notion of the establishment of shared understanding:

> There are some basic elements of the process of establishing a shared understanding, of building an ever-expanding foundation of shared knowledge which will carry the weight of future discourse (and action). These are the offering of new information, reference to existing

> past experience, requests for information, and tests or "checks" on the validity of interpretations of information offered . . . .
>
> By use of these elements, or mechanisms, two or more people can construct through discourse a continuity of experience which itself is greater than their individual experience. Its existence as a referential framework may become taken for granted by the participants, so that they do not strive to be as explicit as they might for an uninitiated newcomer. They may construct well, or badly. They may use this mutual knowledge to good effect, or squander it (p. 7).

What Edwards & Mercer (1987) capture in this statement is the historical dimension of classroom life (continuity of experience) and what is needed to participate in such life. As members of the social group interact across time, one aspect of a communicative system that develops is a "referential system" for the actions, objects, and events of daily life. That is, words in a culture develop specific meaning or represent particular concepts (Lakoff & Johnson, 1980).

In the fourth-fifth grade class, for example, teacher and students held a particular set of meanings for library. Library was a place where students could go during science (and during previous units of instruction) to obtain information about their topic and to work on projects. The students and teacher had a particular set of procedures that also defined library (they had to ask permission; if permission was given, they had to sign out on the blackboard. No specific limits were placed on the number of students who could go to the library at a particular point in time).

Viewed in this way, much of the life in classrooms becomes taken for granted, invisible and ordinary. Outsiders to this life may hear particular words and see particular actions but may not interpret these in the ways that members of the social group do. In Figure 1, we used terms that members employed to refer to events where such existed: Mealworms & body part studies; presentations, wrap-up. The "Pre-mealworm" phase has quotation marks around it because the members of the group did not have a formal term for this phase. Yet, what each term means cannot be defined by looking at the words, even in the context of use on a single day. These words can be defined only within the continuity of experience of the group and are problematic to outsiders since they do not share the referential system of members (e.g., observers, substitutes, administrators, parents).

An example of the problem of terms occurred during one of the days in which a substitute was responsible for class. The substitute referred to the assignment as "mealie worms." The observed response of students showed that the students laughed at the substitute, snickered throughout the day about the term, and used the term in a derogatory manner. The substitute's error marked her as an outsider to the culture of the group. The students' actions signalled group affiliation and set them

apart from the substitute teacher in particular ways. The substitute's inadvertent error had social consequences for her life with this group that could not be anticipated by her and caused a mild disruption in the flow of life in this social group.

Similar cultural definitions were constructed for space terms (e.g., places in the room such as meeting area, back room, hall work space), events (e.g., work time, presentations, class meetings), activity (e.g., individual, partners, small group). Some of these concepts were held in common with substitutes. Others had meanings specific to the unit of instruction and group in this classroom.

In addition to a referential system for words, a system for communication develops (e.g., turn taking, topic initiation, requests for help). As Hymes (1972 as cited in Gumperz, 1986) has argued:

> By applying the term competence to communication rather than to language as such, ethnographers of communication put forward the claim that there exists measurable regularities at the level of social structure and social interaction which are as much a matter of subconsciously internalized ability as are grammatical rules proper. Control of these regularities, they contend is a precondition of effective communication (p. 54).

This argument suggests that as teachers and students construct the ways of engaging in daily life, the meanings of classroom events, and the content of classroom lessons, they are also constructing a set of discourse rules for communicating. For example, in the fourth-fifth grade classroom, norms and expectations developed for how to talk with whom, for what purpose, in what ways, under what conditions, when, where, and with what potential outcome.

Concept 5: Breaking the Culture

The discussion above has built an argument about the nature of life within a classroom. What we have argued is that life in classrooms becomes patterned as members construct a common language and set of experiences that influence their interpretations of future actions and interactions. Social structure and flow of everyday life influences what opportunities members have to learn, how the opportunities will be accomplished, and what results from participating (alone and in groups) in everyday events (e.g., learning, failure to learn, or simply participating). Viewed in this way, participating in events does not equate with learning but only forms a potential condition for learning.

To further illustrate the importance of understanding the relationships of the social conditions of the group in the classroom and potentials for learning, we will explore life in this classroom with the substitute teachers. By comparing the aspects of classroom life that become

problematic (marked as different) when the substitutes were responsible for the class, and then examining the ordinary (unmarked) ways of engaging in life when the teacher was responsible (Collins, 1990), we were able to identify factors that supported and/or constrained learning in this classroom. What became evident is that when an outsider was responsible for classroom life, students had to shift requirements from what was to be learned to how to do learning.

Figure 2 presents a summary of the norms and expectations for engaging in classroom life that were problematic for students (members of the continuing group). As indicated in this figure, the eight substitutes adhered to or broke the norms in differing degrees. We do not argue that breaking a single norm is the problem. The issue is that norms do exist. When they are broken, they break the ordinary flow of life and bring attention to that aspect of life. This change in attention takes students away from learning and focuses them on doing.

Figure 2

Comparison of Norms and Expectations for
Life with the Teacher (T) and the Substitutes (Sub)

		April				May			June	
Norms and Expectations		18	21	24	25	2	11	16	19	23	1
T	Students solve problems										
Sub	Sub uses assertive discipline			X	X					X	X
T	T accepts student private space										
Sub	Sub sits close in student's space							X	X	X	
T	T-Student private display of knowledge										
Sub	Sub-Group public display of knowledge									X	X
T	Collaborative assignments										
Sub	Individual assignments									X	X
T	Answers not in complete sentences										
Sub	Answers in complete sentences									X	X
T	Computer not used during work time										
Sub	Computer used during work time						X	X	X		
T	Prelesson and lesson structure										
Sub	Prelesson, lesson, wrap up structure			X	X		X			X	
T	Students need not raise hands for turn										
Sub	Students must raise hand for turn									X	X
T	Students called ladies/gentlemen										
Sub	Students called boys/girls	X									

T	No confusion in assignments								X	X	X	
Sub	Confusion in assignments											
			April				May				June	
Norms and Expectations		18	21	24	25	2	11	16	19	23	1	
T	No negative reinforcement											
Sub	Heads down as punishment									X		
T	No negative reinforcement											
Sub	Removal of privileges as punishment							X				
T	Student—think through questions											
Sub	Sub gives student answers									X		
T	Instructions given at students' place											
Sub	Students move to meeting area				X							
T	Mealworm changes recorded Friday											
Sub	Mealworm changes recorded Tuesday					X						
T	No free time											
Sub	Free time					X					X	
T	Library opportunity in work time											
Sub	Library off bounds									X		
T	Work time less than 40 minutes											
Sub	Work time greater than 40 minutes				X							
T	Majority of students work in classroom											
Sub	Majority of students work elsewhere					X	X					
T	Familiar (common) terms											
Sub	Unfamiliar terms (e.g., mealie worms)				X							
T	Does not overtly record observations											
Sub	Overtly records observations							X				
T	Sends students to lab											
Sub	Sends students to LD room	X										
T	Students think through answers											
Sub	Sub gives students answers											

The cumulative effect of this process is that life becomes problematic. The problematic nature of life can be seen clearly in the 2 days (May 19 and 23—Friday and Monday) with one substitute. This substitute changed the discipline procedures (e.g., assertive discipline), the use of space (encroachment into student space zones), ways of participating (e.g., whole group versus both whole group and individual/partners;

raise hands to talk), the use of objects during work time (e.g., computers), and the ways of doing assignments (e.g., answers in whole sentences; types of assignments). The cumulative result of these breaks in life was confusion, tension, and open conflict. The principal had to intervene in the class. This is the only time that the principal became involved across the 10 days of substitutes.

What these data show is that those substitutes who intervened in ordinary ways of engaging in classroom life the least had the least amount of trouble and life continued more-or-less as usual. The more that the substitutes intervened and brought their own theories of teaching into the classroom, the more problematic life became for students and thus for the substitutes.

If we return to the discussion of culture presented above, we can identify factors that explain the problems facing the substitutes. Problems for the different substitutes arose because they did not share the referential system of the class, lacked the continuity of experience with the members of the group, and did not understand the ordinary patterned ways of engaging in daily life of the group. In other words, the substitutes entered an ongoing social group (a culture). They were the strangers and the students were the members of the social group.

The ways in which the substitutes entered this culture influenced the ways in which life was accomplished as well as what could be accomplished. Those substitutes who entered in ways that supported the extant culture caused few problems for the group. The substitute who attempted to impose his own way of teaching on the classroom, however, caused major frame clashes for students in terms of what to do and how to accomplish the tasks. These clashes interrupted the ordinary conditions for learning and caused problems for the group as a whole.

The discussion above explores the culture of the class and raises questions about what occurs when cultural life is broken by the substitutes. The substitute data makes visible a variety of elements that influence teaching and learning processes in the classroom that are often invisible elements of classroom life. In the final section, we will take a closer look at issues involved in seeing and locating learning in classrooms.

Learning to See Learning: Competence or Performance

Classroom life was defined as consisting of both continuity of experience and patterned ways of engaging in everyday life. Patterns discussed include ways of using words (the referential system, discourse system); accomplishing particular events (e.g., wrap-up, library); knowledge construction (private, public, alone, in groups); and use of time and space. The patterns, we argued, influence the expectations people bring

to new events within this segment of life and the ways in which members of the social group interpret what is occurring.

By viewing learning as an outcome of participation within and across the patterned events of classroom life, we define learning as both a group (social) and an individual process. Viewed in this way, learning is a product of the social demands in which students are expected to perform in particular ways and may not be due to individual competence alone.[1]

This work indicates that the ways in which students and teachers work together influences opportunities to learn, expectations for displaying learning, and what is actually learned. This work suggests that to understand learning in each classroom, we must explore performance over time and examine factors that support and/or constrain performance (e.g., group membership, prior knowledge, resources from outside of the classroom).[2]

The exploration of learning in classrooms undertaken for this paper raises a series of questions that must be considered in future work: (a) What do we mean by "learning?", (b) What is the relationship between learning, acquisition of knowledge, and content knowledge?, (c) When does learning occur in classroom life (e.g., within an individual event, over time)?, (d) What are the indicators of learning that are evident in classroom life?, (e) What factors support and/or constrain learning?, (f) Is what we see in classrooms competence, ability, or merely performance?, and (g) What do the models and definitions of learning we select allow us to see, know, and understand?

[1]The need to define learning as a product of social demands is built upon the cumulative effect of a large body of work. Selected exemplars include: Weade & Green (1989); Allington (1984); Collins (1983, 1986); Golden (1988); Green, Weade, & Graham (1988); Harker (1988); Morine-Dershimer (1986, 1988a, 1988b); Ramirez (1988); Shuy (1988); and Tenenberg (1988), among others.

[2]Cf. Gumperz (1986); Collins (1986); Michaels (1984, 1986); Scollon & Scollon (1984), and Florio & Shultz (1979), among others.

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6

Teacher Culture from the Inside: A Case Study of Change from the Perspective of Active Participant Observer

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During the 1988-89 academic year, Emerson High School was an organization struggling to work successfully with diverse student needs. A recipient of a presidential award for excellence, Emerson had long been used by area realtors to sell expensive homes to affluent families and enjoyed an excellent reputation for producing students who succeed at the most prestigious colleges and universities in the country. The school also served working class families who could not afford to send their students to expensive colleges. Like other schools, Emerson suffered the pain of student drug and alcohol addiction, absenteeism, academic failure, and uncomfortable drop-out rates. To address these problems, the administration and faculty members formulated and implemented several projects focused on one major goal: to increase opportunities for students to experience success. Major components of reaching the goal included phasing out academic tracking, implementing a program where faculty members served as formal mentors to sophomores identified at risk of dropping out of school, and articulating services to all such students in grades K-12. Other projects included a peer tutoring program and taking students, considered to be educationally at-risk, to a week long work camp. Faculty members who had formerly derived feelings of accomplishment from the most academically gifted students began working in the at-risk program. This shift of attention implied changes in the culture of the school.

All names of institutions and individuals are pseudonyms.

In this description and interpretation of how teachers affected the process of change during one year at Emerson High School, I intend to contribute to educators' dialogues and reflections about change rather than to provide an evaluation or prescription for how to achieve it. Research on change in education has long been dominated by technical and political perspectives, but a growing number of researchers have recognized the importance of cultural perspective and studying change in the context of social settings (Fullan, 1982; Rossman, Corbett, & Firestone, 1988; Sarason, 1982; Sirotnik, 1989; Wolcott, 1977). Sirotnik (1989) advocates stretching the research tradition of participant observation to include educators as "participant observers in their own program of school based inquiry and change" (p. 94). Schools can become centers of inquiry activity where educators themselves reflect about the issues. This case study, a description of change by a participant, is intended to inform the dialogue between those who actually experience change and those who want to know about that experience.

Research Methodology

I approached the research as a case study (Yin, 1984) and I acted as an active participant observer to investigate teachers' and administrators' responses, interactions, and interpretations regarding planned change during one complete school year (Wolcott, 1973, 1982, 1988). A high school English teacher who had just returned from a one-year sabbatical, I spent my year of fieldwork as a complete participant observer (Adler & Adler, 1987). I approached the fieldwork with a repertoire of strategies (Agar, 1980; Jick, 1983; Lofland & Lofland, 1984; Wax, 1952, 1971). The course of fieldwork generally followed Spradley's (1980) cycles played over many times; however, the strategies I used from day to day depended on the feedback I received from the field (Goetz & LeCompte, 1984). Fieldwork strategies also changed as I came to understand my dual role as researcher/teacher.

Throughout the research year I reflected upon my role as the research instrument (Powdermaker, 1966; Wolcott, 1973) and my actions as a member of the organization. As I forged a research role, I also attempted to keep my membership role as teacher relatively stable. To do this I constantly compared my memories of how I had previously acted in the organization with how I acted during the period of research. Using Peshkin's (1988) list of "subjective I's," I made conscious decisions about how to deal with my own actions during the fieldwork. In general, I maintained my usual range of participation in school events, and I continued to respond first as a teacher. I assumed my researcher role when I recorded my experiences and observations.

The value of my being a complete member observer was in the fact that I could go almost anywhere in the building without being noticed or causing concern. Teacher Patricia Dombart (1985, p. 73) points out that teachers rarely allow outside researchers to see the reality of their lives; they hide their visions behind a mask of cynicism, and expose them to "a few close colleagues . . . but never to the outsider [i.e., researchers] whose insistent optimism is at odds with [their] reality." As an insider, I witnessed spontaneous teacher and administrator responses to everyday situations, and I personally felt the same stresses, joys, and everyday emotions as the subjects of my research. My biases were a concern, but I followed Alan Peshkin's (1988) advice to seek "not to exorcise my subjectivity," but rather to "enable myself to manage it" (p. 17).

The Case

Historical Context

Although this paper focuses on changes implemented in 1988-89, the historical context of the five preceding years are important to developing an understanding of the case. The change process at Emerson High School actually began in the fall of 1983 when the principal began the "constant process of self-examination and renewal . . . by focusing his staff's attention on both the positive aspects of their past accomplishments while holding up the promise of future educational gains." He selected 10 faculty members to serve on the first School Improvement Team (SIT); their initial task was to review literature on school improvement and identify areas which needed improvement. In the next two years a series of events occurred which led to the changes in 1988:

Summer 1984:	School Improvement Team surveys staff to formulate three tentative school improvement goals.
October 1984:	Staff votes for first goal: to increase adult pervasive caring for students.
Spring 1985:	SIT trained in Onward to Excellence school improvement model.
Summer 1985:	New principal and three new vice-principals are hired.
1986-87:	School Improvement Team focuses on activities which are designed to increase adult pervasive caring for students.
September 1987:	New school goal is identified: to provide multiple opportunities for students to experience success.

1987-88: Principal organizes the "At-Risk" Steering Committee which organizes most of the projects related to the new school improvement goal.

The Language Arts and Social Studies Departments integrate low-track students into regular classes.

An ad hoc committee, the Committee for Staff Concerns, is organized by several staff members who are concerned about increasing student discipline problems and resulting teacher stress.

The significance of this history lies in the subtle way in which the school improvement projects evolved. From 1983 to 1987 school improvement was run according to the Onward to Excellence model. This meant that projects required approval by the School Improvement Team which consisted of teachers and administrators. Because the goal of increasing pervasive caring targeted all students in the school, almost any related project could fit under the school improvement umbrella. After the second goal was identified as providing multiple opportunities for success for all students, the process of school improvement changed at Emerson High.

Like the first goal, the second goal was aimed at all students, but the new principal chose to emphasize the needs of students at risk of dropping out of school. He succeeded in refocusing school improvement efforts by appointing a new committee to run the projects, bypassing the School Improvement Team. In 1988 the School Improvement Team was faced with finding a new purpose for itself.

Focus on 1988-1989. I officially began fieldwork by interviewing the principal and the vice-principal who would coordinate the activities for the at-risk programs. Principal George Barnes' spontaneity immediately became evident when I asked for an appointment for an interview, and he said he would talk with me right away. He also called in the vice-principal who was in charge of coordinating the projects targeting students labeled "at-risk." I explained my fieldwork to them and requested permission to attend most school meetings. When I assured Barnes that I would let everyone know about my research activities, he quickly replied, "That's fine. We have no secrets here."

Barnes explained how the school improvement goal evolved into an emphasis on students labeled "at-risk": "The goal is to provide multiple opportunities for success so that all kids can succeed. The high-track and the regular-track kids were already succeeding. We looked at it and saw that the kids who weren't succeeding were the lower-track or at-risk

kids." Vice-principal Suzanne Gold, speaking slowly and deliberately, stated, "It's a staff selected goal . . . . Our role as administrators is to continue to provide resources, release time, and money for teachers. The actual things that occurred were dependent on the staff. We scurried around getting them what they needed." Barnes added, "We tried to be go-fors for teachers." He praised the Language Arts and Social Science Departments' ongoing efforts to work with heterogeneous classes, the new Business Department curriculum with no low-track classes, the work of the "At-Risk" Steering Committee who had planned the mentor program, and the counselors who met regularly with at-risk students. He also claimed that the administrative team was responding to teacher requests; action plans for next year would be more "teacher driven" with "more information going to the teachers."

The optimism of the interview with the administrators contrasted with a conversation I had later the same day with a veteran teacher from the Language Arts Department. When asked to discuss a report written by her department chair concerning the Language Arts experiences with heterogeneous grouping, she said she was not pleased with it because it contained the views of only three or four teachers in the department. When I asked why she and others hadn't said anything, she replied, "Because they feel cut off. They've watched other people say things and get no response. Then ____ organized his group and everyone knows what happened to him . . . . George [the principal] surrounds himself with people who are positive . . . George holds you at a distance. He doesn't make it possible to tell him what you think." She did voice her appreciation for the principal's encouragement and endorsement of her active involvement with programs related to the school improvement goal. The principal's praise, however, did not eliminate her concern about student discipline issues and teacher work overloads: "What possessed me to do this? I have 150 students and am taking on 15 students to tutor."

Over the next weeks and months, I found that these first conversations foreshadowed a theme for this study: contrasts in administrator and teacher perception about what was going on with several building projects and issues, including those related to at-risk students. Administrative meetings were characterized by recitations of accomplishments and plans for the future. Informal conversations among teachers and more formal teacher-dominated meetings, however, were characterized by recitations of problems and complaints that no one was doing anything about them. Each group maintained they were working in the best interests of the school and students. Their contrasting points of view are exemplified in the following portraits of three groups involved in the "at-risk" projects.

"At-Risk" Steering Committee

The "At-Risk" Steering Committee originally was appointed by Barnes in April 1988 to plan the mentor program. Original members were: the principal, vice-principal, staff development specialist, and the department coordinators of Language Arts, Social Science, and Special Education. The new attendance officer, the school psychologist, and I were added for the 1988-89 year. Additional teachers who showed enthusiasm for the program were appointed in other years. Meetings were invariably positive in tone as the members planned activities to benefit at-risk students, but the committee's sensitivity to work loads was apparent as they altered plans deemed burdensome for teachers. In addition, they worked to help teachers cope with the difficulties they encountered in their mentor relationships with at-risk students. As one of the committee members said, "We want to be supportive, not accusatory." Reports of individual teachers having problems or concerns were referred to the staff development specialist for assistance.

Issues related to the mentor program dominated discussions early in the year as the committee sought to make adjustments in response to teacher concerns. Faculty reactions to the mentor program were gathered through an informal written survey and a formal evaluation of the mentor program conducted in spring 1988 by a district evaluation specialist. In the formal evaluation, the majority of teachers supported the idea of providing adult mentors for students labeled "at risk," but 60 percent of the teachers reported that they received inadequate training to become a mentor to such students. The committee used the information to improve the program for next year.

The "At-Risk" Steering Committee also participated in monthly breakfast meetings with similar committees of administrators and teachers from intermediate and elementary schools. The purpose of the "At Risk" Articulation Committee was to coordinate services for students in kindergarten through 12th grade. Meetings served as forums for individual schools to showcase their "At-Risk" programs and share ideas with other buildings. Teachers and administrators talked of the importance of their mission and praised one another for their efforts. Written evaluations from a two-day retreat reflected the positive feelings of people on the committee:

> Sharing ideas with teachers from the three levels—quite often we have been concerned with our own situation and have not looked at the entire picture when talking about improvement. It didn't seem like work!
>
> The opportunity to meet and share outside our building is highly valuable to professional growth. It should be encouraged and promoted. Sharing time with others in small, nonthreatening groups has promoted confidence and ideas expansion.

The committee members' attitudes were consistently positive all year as they compiled data from faculty discussions, interviews and surveys and then made plans for future activities or adjustments in the "At-Risk" programs.

Department Coordinators

Department coordinators, appointed by the principal, were veteran teachers with 10 to 28 years of experience. Nine of the 13 had taught at Emerson High School for at least 11 years. Their responsibilities included developing curriculum in their departments and performing annual teacher evaluations. Each worked with one of the vice-principals to develop action plans for their departments, and several department chairs were feeling administrative pressure to follow the example of Social Science and Language Arts in eliminating low-track classes. Monthly department coordinator meetings tended to be for the purpose of disseminating information and making decisions on school issues. Typical issues discussed were grading policies, arrangements for special events, budgeting, and supporting school improvement. In general, the monthly meetings were markedly lacking in controversy with department coordinators publicly supporting the programs for students labeled "at-risk." They were not always so positive, however, when administrators were absent.

During informal situations with teachers, coordinators sometimes disagreed with administrative policy. For instance, science and math coordinators publicly voiced support for heterogeneous grouping, but privately claimed that heterogeneous grouping would not work in their areas as it had in English and social science. Even those coordinators most actively involved in planning and promoting activities for the students complained of a perceived relaxation of academic standards and discipline. One person known for support of programs for students labeled "at-risk," quipped, "You know we don't kick out at-risk students," when a colleague complained about administrative inaction in a discipline issue. Department coordinators were officially teachers, but their responsibility for administrative duties placed them in the middle of teachers and administrators. They survived by acting like chameleons; they assumed the colors of the group they happened to be with at any particular time.

The School Improvement Team

Finding themselves without an official project because the "At-Risk" Steering Committee had become operational, the teachers on the School Improvement Team defined a new responsibility as liaison between

faculty and administration. As their project for 1988-89, they chose to conduct a climate survey in which they would poll and analyze the staff's reactions to the many projects and changes taking place in the building. The principal endorsed their plan. Since I had just returned from a sabbatical year of studying research methods, I was recruited to help them develop the survey and analyze the results. I readily accepted the opportunity to observe teachers and administrators working together; I could simultaneously provide a service to the school and gather data for my study (Wax, 1952).

The committee met weekly during the months of survey development, administration, and analysis. Frank exchanges between teachers and administrators at these meetings revealed contrasting perceptions of nearly every issue that arose. Of paramount importance to the teachers on the committee was the confidentiality of survey data and teachers eliminated demographic questions which might reveal a person's identity.

The School Improvement Team chairman closely questioned me about how I would use the survey data. He insisted on personally entering the raw data into the computer and typing the written responses, to prevent analysis of the handwriting on the questionnaires. In addition, group interviews, intended to give faculty a chance to discuss and explain their responses on the survey, were planned and advertised as "administrator-free zones" with only SIT members taking notes.

At the first meeting after the group interviews, conflict arose over the purpose and results of the survey process. The meeting started without the presence of an administrator; Barnes was out of town and the vice-principal was in her office. As committee members reported results of their group interviews, several verbalized their beliefs that there was lack of leadership in the school, particularly in relation to student discipline. A few minutes into the conversation, the staff development specialist left and returned with the vice-principal who questioned the validity of the data from both the written survey and the group discussions. Tension rose as one teacher accused her of not understanding what was happening because she was late for the meeting. The vice-principal countered, "I don't think that is the purpose of the School Improvement Team, to tell the administration what to do. . . . People felt they were used as a soapbox for a small percentage of the staff who were trying to ramrod things through. Some people felt the leaders made inflammatory remarks." For the next 30 minutes, the teachers accused the administrator of being defensive while the vice-principal maintained that teachers were stepping beyond their authority. The meeting ended with no plan for reporting survey results to the staff.

Another meeting was scheduled for the following Monday afternoon.

The principal attended the Monday meeting; the vice-principal was absent. When teachers talked once again of inconsistency in discipline, Barnes responded, "When we say inconsistency, we need to get away from the 'we-they' thing.... The amount of rules is not the issue but how we enforce them. That's what we're doing here, and that's positive." The next hour was spent planning the report the committee would make to faculty and making tentative plans for action to increase staff unity. Although teachers continued to argue for stricter enforcement of rules, Barnes remained firm in his view: "I think the administrator's job is to make teachers' jobs easier. I can tell you what to do but if this is the way we have to live, I don't want anything to do with it.... We are here for education, not rules." By the end of the meeting, the committee decided to propose three areas of concentration the following year: (a) making sure that the school philosophy was well understood and that practices fit and support it, (b) insuring consistency among staff of enforcement of school rules, and (c) working with administrators to clarify support for staff. When the meeting ended, one teacher complimented Barnes on changing the tone from the last meeting away from defensiveness. The next day, the committee presented the results to a silent faculty who, in a secret ballot, granted approval for them to proceed with the three-part goal. Except for setting up a summer planning workshop, their work for the year was finished.

Administrative Goals and Teacher Interpretations

"No one objects to the basic idea of 'at-risk' but they object to the principal's interpretation." This statement epitomizes the faculty's response to formal attempts to provide multiple opportunities for success for Emerson High School's students. There appeared to be widespread support for the "At-Risk" program. As I have documented, teachers at Emerson High School, especially those who were in leadership positions or assigned to special projects, refrained from open disagreement with the administrative position. The private conversations among teachers, however, revealed confusion about projects and dissatisfaction over two critical issues: discipline and communication.

Discipline

From the very first faculty meeting of the year, it was evident that the principal and the teachers had different perceptions of appropriate disciplinary action for students. When one teacher asked if a solution to the problems of the student smoking area had been worked out, Princi-

pal Barnes replied in a booming voice, "I know it's a problem!" and turned to another topic. When the teacher brought up discipline again, Barnes said that if she expected a solution, she would have to go into the smoking area to talk to kids: "The three of us [administrators] cannot do it alone." The red-faced teacher did not press the issue at that meeting, but she talked about it later with colleagues. In the next weeks and months, discipline issues became a focal point for teacher conversations everywhere in the building.

Barnes' priority was keeping kids in school and providing them with opportunities for success. He believed that if students were suspended or expelled from school, any possible positive influence that teachers could have would vanish, "We are committed that every kid will succeed. Last year we had only one expulsion, and we have a goal of none this year. We'd like to see no suspensions . . . . We will not kick a kid out of high school as long as I'm principal."

Teachers, however, saw firm discipline as a top priority which contributed positively to the education of students and to the climate of the workplace. Wherever they gathered, teachers shared their experiences, especially those in which outcomes were not satisfactory. Written comments from the School Improvement Team survey corroborated the spoken remarks. Nearly all contained some reference to discipline issues. The following remark is representative:

> I am having problems because my priorities and those of administration do not seem to match up too well. Tardies, student conduct, student parking, use of smoking area, and working with students who disrupt the classroom are the areas that I feel the administration does not do enough. Lack of support to teachers in these areas have [sic] caused teachers to quit trying to help these problems.

Many of the students identified as "at-risk" had poor attendance patterns and were involved in disciplinary action for their behavior. In keeping with the principal's philosophy of working to keep the students in school, the traditional disciplinary action of suspension or expulsion was seldom used. When students were sent back to classes, teachers interpreted that as administrative leniency. They also believed their own disciplinary clout was being taken away and blamed the "At-Risk" program as the cause. Some teachers simply retreated into their own rooms, but others openly criticized the projects:

> Today, I'm spending fifth period reteaching several kids who didn't pay attention the first time. I'm giving them "multiple opportunities to succeed." That phrase has come to mean it's okay to goof off because you'll get another chance.

Comments about discipline served to discount the success stories from the "At-Risk" projects. At a January faculty meeting, Barnes showcased four sophomores as examples of the success of the mentor

program, but teachers who knew the students told their colleagues that those same students were doing very poorly in their classes. One student reportedly was failing several classes and had over 20 absences in at least one. I never found out how the other students were doing, but I heard the story of the failing student several times over the next few days. As the story spread rapidly, teachers expressed anger and frustration over praising students who, in their minds, did not deserve it. They believed that lowered academic standards.

By mid-year, discipline became a major stumbling block for teacher commitment to the "At-Risk" projects. Administrators and teachers each sincerely believed their way was the most beneficial and criticized the other side's view. Teachers talked frequently of the "lack of discipline" and the stress that it caused them. Aware of teacher dissatisfaction, Barnes talked at committee and department coordinator meetings about the need to change teacher attitudes. In the faculty room, he continued to praise the efforts of those who participated in the projects and to voice his commitment to keeping kids in school.

Communication

When George Barnes heard a teacher remark that there was a lack of communication with administration, his reply was, "Teachers get more information here than in most other schools." Teachers did receive quantities of information daily. There was, for instance, the weekly calendar which included schedules for all administrators. I had appreciated that because it helped me plan the times when I would contact an administrator, and it took the mystery out of the principal's schedule. Teachers also received Barnes' memos containing philosophy statements, notices of events, and student information. Barnes was highly visible in the halls and at school events. He often asked students and teachers about their lives and was quick to offer assistance and a hug when needed. Teachers generally acknowledged his kindness; however, their comments indicated that the information and the personal empathy did not satisfy their communication needs in four ways.

First, good communication about a student meant hearing that the administrator had taken care of a situation in a satisfactory manner. Teachers complained frequently that they had not heard the results of a discipline referral. They interpreted the lack of information as a sign that "nothing was done." Many teachers responded by limiting disciplinary action to their own classrooms. One teacher commented about a friend's response: "The other day _____ was called a 'bitch' by a kid. She wrote it up and nothing happened. So she put blinders on." When teachers perceived nothing happened, they felt humiliated and refused

to take risks again.

Second, good communication meant being able to disagree openly with administration without receiving "punishment" later on. Even though most teachers were tenured, many still feared the possibility of being transferred or given a bad schedule if the principal knew of their complaints. One teacher said, "People are afraid for their jobs .... A couple of years ago I spoke up and I got basic classes." Even though stories of unfair treatment were infrequent, they had great impact. Such stories became part of school folklore and were told for years. Barnes could not understand the teachers' concern: "People should know me by now." Teachers, however, maintained their stance and quietly traded stories about colleagues who had suffered censure after they voiced opinions. The overall effect was that when teachers talked directly to the principal, they only made positive comments. Negative talk stayed in the workrooms and wherever teachers gathered out of administrative earshot.

Third, good communication meant receiving clear instructions. The most obvious example of this was the confusion over how to be a mentor. The following comment reflects their confusion: "So I got a list [of students]. So what! What am I supposed to do with it? I received no instructions, no training." Teachers also wanted clear instructions regarding school rules:

> If you have rules, they have to be clear about what the rules are. I'd like an assembly with everyone at the beginning of the year where administration says clearly what the rules are, so if the teacher enforces them, everyone knows what will happen.

Administrators responded selectively to teacher confusion. Training workshops were planned for mentors, but Barnes was reluctant to be more specific on the school rules. He preferred the flexibility of dealing with individual cases in different ways. To Barnes, lots of rules showed a basic distrust of the students: "If we expect kids to do bad things, they will." He also thought that rules unfairly put restrictions on good kids: "In my opinion, we have no more than 10 percent of the kids cause problems, and we create rules for the rest of the 1,800. It bugs me." Essentially, Barnes' level of specificity in communicating about rules and procedures depended on his goals. Teachers, however, did not willingly accept selective communication. They wanted full disclosure, even on controversial topics.

Fourth, good communication meant receiving professional, personal information. They wanted face-to-face discussion and complete information about decisions that affected their careers. Speaking often and proudly of his own openness, Barnes claimed that he kept no secrets from teachers. For example, he invited people to view the master schedule as he worked on it. Ironically, this led to accusations of miscommunication

when several people, who upon viewing the master schedule, were startled by major changes in their working status. The most extreme case was of a teacher who learned that she was being transferred out of the school when she could not find her name on the schedule. Her story spread through the staff in a matter of hours. Two other teachers learned they no longer had special assignments when they discovered a full schedule of classes under their names.

Teachers also contributed to communication problems. Although they stated they wanted more communication, their anger over issues such as discipline decreased their own ability to communicate or to interpret communications from Barnes. A prominent example was their refusal to communicate on discipline issues once they decided that the administration's interpretation of correct discipline was not acceptable to them. When Barnes distributed a memo extending the deadline for students to turn in forecasting sheets for next year's schedule, several teachers interpreted it as a sign of the administration "enabling" student irresponsibility. Several others interpreted it as the principal sending a message that teachers had not done a good job with students the first time through the scheduling process. Barnes' own words reveal, however, that he simply wanted to provide enough time for the students to do a good job. Anger over disagreements also caused complete misinterpretation of administrative messages. In April, Barnes canceled a School Improvement Team meeting which was to have been held on the day after two students were killed in an automobile accident. Two teachers commented that he was using the accident as an excuse to avoid discussing the unfavorable results of a recent staff survey; they ignored the fact that several committee members were going to the memorial services.

Like student discipline, the issue of communication was deeply felt. In communication, teachers generally wanted specificity which would enable them to predict outcomes in their day-to-day dealings with students and administrators. Information on school rules, exact instructions on new programs, guarantees that they could voice opinions without rebuke, and knowledge about future assignments would reduce daily risks and vulnerability. On the other hand, specificity would increase the vulnerability of the principal who needed to satisfy not only teachers but also students, parents, central office administrators, and community members.

Conclusions and Implications

In September 1988, Emerson High School was entering its fifth year of formal efforts at school improvement and its second year of providing

multiple opportunities for success for students. The school was praised as a leader in implementing programs to keep at-risk students in school and appeared to be a model for successful implementation of major changes. Virtually none of the activities related to the school goal were enacted without some teacher involvement or approval. A majority of teachers voluntarily participated in the mentor program, and individual teachers were encouraged and supported in their own projects. Insiders knew, however, that the "At-Risk" programs were not progressing smoothly. Ironically, it was not the school goal itself that caused the problem. Teachers consistently voiced support for the idea of providing opportunities for all students to experience success and of making special efforts to keep at-risk students enrolled in school. Because the two issues were originally unrelated to the "At-Risk" program, it was difficult for participants to identify and remove barriers to successful implementation.

Conflicting interpretations by teachers and administrators of what constituted good discipline and good communication appeared to be the root of the difficulties experienced by the Emerson High School staff as they worked on the school goal. The emergence of contrasting interpretations was not surprising; other studies have documented the inevitable differences in teacher and administrative thinking. For instance, Wolcott (1977) views educator subculture as divided into two mutually exclusive halves, teachers and technocrats. His study of planned change in a school district documents the contrasting ideational systems of the two groups. Michael Fullan (1982) points out that the conflict between the opposing ideational systems of teachers and administrators is almost inevitable as each group interprets the meaning of change.

Opposing viewpoints may be inevitable as a school goes through changes, but conditions at Emerson High School increased the likelihood of conflicts. The official goal, to provide multiple opportunities for students to experience success, was so broad and so many activities and programs were developed that multiple interpretations were actually encouraged. This was both the program's strength and its weakness. It allowed teachers and administrators to create a variety of programs that related their own personal interest areas to the school goal. On the other hand, the vagueness caused problems when teachers and administrators acted on different interpretations of how to handle daily issues such as student discipline. Staff accusations of poor administrative communication reflected their desire for one consistent interpretation of the meaning of policies and practices. They wanted to lessen their own vulnerability.

When teachers voted in favor of the goal to provide multiple opportunities for success for all students, there had been no general understanding of how that goal might affect day-to-day life at Emerson High

School. The "At-Risk" portion of the activities had not even been part of the original discussion about the goal. Discipline became connected to the goal when Barnes interpreted offering multiple opportunities for success as keeping students in school. Although Barnes thought he provided ample rationale for the changes in his conversations and memos, his explanations did not change deeply embedded teacher beliefs. They saw his actions as supporting student misbehavior and complained that their educational mission was in jeopardy. They no longer knew what was important in school. One teacher commented:

> Let's stop swatting flies and establish a school built upon a purpose, philosophy, direction which can assist in helping us establish programs, policies, and practices which do more than just deal with petty banalities of the day. We must take some time to go back to square one and really decide, (a) why are we here? and (b) why do we teach?

Not all differences in perspective would have caused as much difficulty for implementing change. Some issues cause more problems than others. Rossman, Corbett, and Firestone (1988) divide norms into two categories, sacred and profane. Sacred norms are "the realm of reality that gives life its meaning or purpose; it supplies stability." Sacred norms are not questioned and are generally unchangeable. On the other hand, profane norms, "the temporary adjustments to everyday life," are subject to change. In the case of Emerson High School, administrators violated sacred teacher norms regarding discipline and communication.

Maintaining good student discipline was a sacred norm to Emerson's teachers who saw it as part of their mission to help students become successful. Good student discipline was also necessary for teachers to maintain self-respect and a good climate in their workplace. Another sacred norm was communication that provided knowledge of the forces affecting their daily lives. As sacred norms, teacher attitudes regarding discipline and communication were essentially unchangeable. Thus, teachers supported making changes to help students as part of their mission, but when the changes were perceived as eroding discipline and communication, preserving sacred norms was more important than implementing programs for at-risk youth.

Barnes was frustrated by the difficulty encountered in the change process at Emerson High School. He appeared to conscientiously follow the advice of experts in change processes (Baldridge & Deal, 1975; Fullan, 1982; Goodlad, 1984; Hall & Hord, 1984; Sergiovanni, 1987). He implemented a democratic process for choosing the goal. He encouraged creative interpretation of the goal. He supported teacher-initiated projects. He communicated his philosophy to teachers. On the surface, it appeared that he was leading his school through successful implementation of major planned change. He failed to anticipate the effects of

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differing teacher and administrator interpretations of the issues related to the goal. He changed the school discipline policy but failed to communicate his intentions. Then he underestimated the extent of teacher concern as the new discipline policy emerged. As he implemented programs for at-risk students, he unintentionally violated sacred norms but did not analyze the situation to identify the barriers. When teachers reacted negatively about at-risk students, he interpreted their objections as a flaw in teacher attitude rather than a mistake on his own part. He failed to understand the sacred norms that were at work. To make matters worse, he openly criticized teachers for their belief in those norms, and he surrounded himself with committees of positive teachers.

Educational leaders who attempt implementation of planned change can learn from Barnes' experience at Emerson High School. Focusing attention on the acceptance of a specific planned change is not enough. Anticipating how the ideational systems of the groups involved in the change will interpret and modify proposals can help predict which secondary changes might influence the implementation of the original project. Principals who surround themselves with committees of positive teachers may blind themselves to organizational issues crying for resolution. As in the case of Emerson High School, even strong support for a planned change can be eroded when conflicting interpretations introduce secondary issues that violate sacred norms.

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Moving Pictures, Multiple Frames

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For many years both researchers and practitioners drew boundary lines between preservice teacher education and inservice education. Staff development specialists, as opposed to those specializing in methods of instruction, were unlikely to refer to themselves as teacher educators, preferring to maintain a distinction between initial learning and continuing professional development. University professors specializing in preservice courses tended to be housed in departments of elementary or secondary education; those who worked with supervisors and staff developers were often housed in departments of educational administration (Lanier & Little, 1986). This situation was created and perpetuated, in part, by an educational system that placed prospective teachers in university classrooms, experienced teachers in inservice workshops, and those who worked with experienced teachers in administrative certification programs. With few exceptions, the early research in preservice teacher education was conducted by professors of curriculum and instruction; research in staff development by professors in educational administration; and research in classroom learning by professors in educational psychology.

Another factor in distinguishing between research on preservice teacher education and continued professional development is a research methodology that seeks linear relationships between instruction and learning. When researchers must define specific populations, control intervening variables, and discover generalizable propositions, distinctions among setting, participants' experiences, and role group are

important preconditions affecting both internal and external threats to the validity of research findings. The study of career development does not easily adapt to the requirements of experimental or quasi-experimental design. Indeed, defining the important research questions and the salient variables may not be apparent before serious study is begun.

We agree with the conclusions reached by the editors of the *Handbook of Research on Teacher Education* (Houston, 1990) that researchers in the last decade have often ignored the complexity of teaching and teacher education and have limited their investigations to those variables which were most easily identified. As this monograph illustrates, there are a number of current research programs implying that questions of teacher education intersect and overlap questions of institutional relationships, school culture, student learning, and educational administration. If research in the present decade continues in the directions suggested by this monograph, we predict that future handbooks will contain a great deal of information to help us better understand the complex nature of learning to teach and the paths that lead to learning to teach well.

We argue that conceptions of teacher education that incorporate both microscopic and macroscopic visions of teaching and learning, cognitive and affective dimensions of learning to teach, and individual as well as situational influences on the roles of teacher and teacher educator, are crucial developments in educational research. We further argue that one important function of research on teacher education is to inform educational change that embraces complexity as opposed to attempting to define it out of existence. These arguments are presented in three themes distilled from the preceding chapters: (a) interrelated visions of teaching and learning; (b) emerging role relationships among educators; and (c) initial efforts to understand complexity.

Visions of Teaching and Learning. The way we view the nature and purpose of schooling, plus our normative view regarding desirable classroom interactions, affects our individual constructions of what is educationally meaningful or trivial. As researchers affiliate with different research programs, individual constructions help shape and are shaped by the community of researchers who engage in similar research. As teachers and administrators affiliate with different communities of practice, individual actions provide input to and are mediated by these communities. That is, the meanings imposed upon educational events do not exist as abstract realities that must be apprehended in order to teach or to study teaching and learning. What it means to educate or to study education is profoundly affected by who we are as persons and the values that we bring with us to social settings. The meaning of what we

see in a school setting may also be negotiated as events are constructed separately by different classroom practitioners and then reconstructed as investigators analyze and reflect on segments of a school year, bringing their own lenses to focus on educational settings (Evertson & Murphy, in press).

Two issues raised by the authors in this monograph elaborate upon this point. The first highlights the inherent difficulty in changing patterns of teaching and learning from the outside without accounting for connections among the meanings diverse participants bring to educational settings. Collins and Green directly address this through their description of events when established classroom cultures are inadvertently broken by substitute teachers. When the meaning of a situation is understood differently by key players, the academic recedes into the background as long as the social rules are in flux. Putnam's chapter describes the internal tension as a teacher attempts to accommodate her perception of the meaning of teaching mathematics content to that of encouraging students' social responses. Together, both of these chapters illustrate different ways of exploring the intersection among what is defined as learning, how that definition is derived, and who is empowered to provide the definition. More importantly, they present us with the dilemmas that occur as these definitions are enacted in the classroom.

A second issue concerns who occupies the role of learner and where learning occurs. We have traditionally assumed that learners are those who sit in classrooms, experiencing the current effects of an enacted curriculum and some form of instruction, or both. The prospective teachers discussed by Gomez and Stoddard remind us that present learning is strongly influenced by past experience. Teachers do not suddenly learn to teach; they often select from their coursework ideas that fit with prior conceptions. Lucas and Rudduck examine the reflective process operating at multiple levels within teacher education and remind us that learning is interactive and cannot be construed as unidirectional. Their chapter illustrates that all participants in schooling are also learners, as well as teachers.

Traditionally, researchers practitioners, policy makers, and others invested in the educational enterprise have brought their own separate (and often different) perspectives to their interpretations of the nature of teaching and learning. Definitions of what constitutes important research questions, useful data to inform practice, or the nature of instructional effectiveness vary considerably as exemplified by Gage's (1990) discussion of competing paradigms and, in this monograph, by Noffke's review of action research traditions and May's discussion of the principal's versus teachers' conceptions of effective shared decision

making. We have much to learn about how these perspectives operate to benefit students or society, as well as much to learn about how the definition of "benefit" is negotiated and redefined over time and across studies.

Role Relationships. We are particularly interested in the roles teachers, teacher educators, and researchers can and should play in the negotiations. Is it possible that those of us who share a common interest in teaching could work together across settings? The collective history of teaching and teacher education has been one of regulation and external control (Goodlad, 1990; Shulman, 1983). Will research provide input for even more mandates to prescribe the ways educators should conduct work (Doyle, 1990)? The research in teaching and teacher education represented by these authors is moving far away from an intent to control teaching and moving toward a goal of understanding the relationships among role groups.

This monograph represents a collection of perspectives that, in our view, takes us back and revisits a fundamental set of questions dating from the 1970s when research on teaching was just beginning (Dunkin & Biddle, 1974). The questions investigators asked concerned the relationships between teaching and learning. For some, the answers held implications for teacher education that were indistinguishable from the findings of classroom observational research (Medley, 1979). Despite discussions of limited generalizability and acknowledgement of the artistry in teaching (Gage, 1978), many practitioners and policy makers found research-based prescriptions for problems the researchers had never raised.

The chapters by Noffke, Lucas and Rudduck, and May specifically address the nature of the relationships among those who teach and those who study teaching. At this time it seems that relationships are changing and sharp delineations between roles are becoming blurred. We see this development in our own work as teachers, teacher educators, and classroom researchers. As we talk with our university-based and school-based colleagues, we see that practice, or the integration and application of knowledge across domains, is more complicated than acquiring and exhibiting a set of skills; more complex than looking at the integration of content and pedagogy; and more difficult than identifying and analyzing categories or concepts. The issues of action research, teaching for understanding, transforming instructional processes, school and classroom cultures, and relationships between faculty leadership and administrative leadership affect us as much as our public and private school colleagues.

Noffke begins the monograph with a thoughtful discussion of attempts to encourage teachers to become researchers. Lucas and Rudduck continue this line of thought as Lucas, the teacher who is also a teacher educator, carefully documents his own practice and its relation to students' learning. May ends the monograph with an account of how she became a researcher in her own school. But the chapters in between are written by people whose primary role is to study, to question, and to write. While all of them teach, their time and the nature of their work give us opportunities for sustained analysis and reflection that are not available to elementary, middle, or secondary school teachers. Furthermore, academicians have conferences, electronic mail exchanges, telephone conversations, and scholarly publications that provide opportunities to share, argue, and clarify their thoughts with other academics nationally and internationally.

For many of our university colleagues, such opportunities are the primary reason for choosing an academic career as opposed to other options in business or education. For them, becoming involved with teacher education requires more time and energy than they wish to give. In some institutions spending time and energy on teaching and teacher education is punished by promotion, tenure, and salary decisions based more on the quality of one's writing and less on the kind and quality of one's interactions with students.

For many of our school-based colleagues the reverse is true. Interactions with students are primary sources of satisfaction. The work of data collection, data analysis, and writing for publication can only be accomplished after the lessons are planned, the six classes a day are taught, the students' work is evaluated, and, in some schools, the school-wide issues related to site-based management are discussed and debated. Research on one's own teaching is yet another addition to what is already a very diverse role set for many teachers. Asking that *all* teachers focus more attention to conducting research or that *all* researchers focus more energy on teaching may mean that both groups lose their sense of identity or of self, given the settings in which they work. As we read through these collected papers, we wonder if they represent an important search to understand who we are and what we do without one role group becoming the other.

Separation and diversity need not imply hierarchical status relationships. Neither do they imply that the knowledge based on empirical evidence is superior to the knowledge embedded in the actions of teaching. But such implications are somewhat evident in the ways researchers share their work with practitioners. The not so hidden curriculum of coursework, staff development workshops, and most annual educational research meetings carries the message that knowl-

edge is transmitted, not constructed. Furthermore, those who transmit are often accorded greater distinction than those who receive. We have yet to devise structures for communicating across roles that do not carry such distinctions, although initiatives such as professional practice schools, professional development schools, Accelerated Schools, and Essential Schools are notable attempts to restructure the settings in which educators teach, learn, and converse. Moving from the abstract conception to the concrete reality will not be the simple task that many people wish for in various calls for educational reform.

Embracing Complexity. In the current rhetoric of educational criticism, more has been said about the kinds of knowledge that we expect students to attain than about the ways in which this might be accomplished. The unifying thread seems to be condemnation of the learning experiences we afford students. An outgrowth of this criticism has placed schools under close public scrutiny. Media blitzes have focused on the quality of learning experiences for students, the quality of preparation for teachers, and what they label as the woeful inadequacy of both to provide (Holmes Group, 1986). State and local initiatives to restructure schools and national plans described by America 2000 mandate policies that call for substantive changes in our present systems of public education. The purposes of such initiatives are ostensibly to provide an education that will prepare students for the 21st century and a global market requiring performance in jobs that do not yet exist.

In policy, practice, and in research, certain instructional landscapes capture the imagination—the open classrooms of the sixties, alternative schools, mastery learning, cooperative learning, alternative certification, and now, restructured schools (Cuban, 1990). While it is important to think imaginatively and boldly, it is equally important to think critically. As we have already noted, one way in which some might use empirical research is to control, or attempt to control, the actions of others. Another way to use research is to understand better the work of educating and the complex dynamics that shape this work. This necessarily implies that we must use many theoretical frameworks to examine this complexity. We would agree with Gage (1990) that attempts to create a uniform paradigm for the study of teaching and learning will severely impair our ability to understand, not to mention our ability to converse with one another.

It also implies that we might benefit from rethinking traditional conceptions of programs for teachers and administrators, and those who aspire to be teachers or administrators (Murphy, 1991). At present, we continue to fragment teacher education into discrete packages of general

education, subject area specialization, pedagogical study, and field experiences. We also continue to pretend that education for teaching can be segmented into preservice components and inservice components, led by personnel who specialize in one or the other. And yet, we know that, while the learner must mediate and synthesize across domains, teacher educators are in a strong position to facilitate that process—if they choose to create a forum in which dialogue among participants can occur in a time frame which allows for continually developing knowledge.

The same can be said for the education of administrators. Becoming a principal or a superintendent means moving from a department focusing on curriculum content, instructional option, and teacher education into a department focusing on teacher supervision, instructional evaluation, and curriculum management. Professional advancement is currently conceptualized as moving from a classroom focus to a school focus to a district focus. Perhaps we might reconceptualize professional advancement as a series of moving pictures in which one acquires numbers of lenses that permit multiple options—close observation of a student, wide angle observation of the relations between finance and education, split frames that juxtapose teaching intent with learners' responses. And perhaps, those who choose to devote some time to editing, analyzing, and reviewing the films might be permitted time to do so, without making dramatic career changes.

While certain aspects of classroom teaching have not changed in 60 years, there are many changes within the field of education. Sixty years ago schooling was not available to many children in the United States; research on teaching was confined to attempts to measure teachers' characteristics; and discussions of educating educators were based on belief. This monograph documents what may be an evolutionary moment in the field of educational research: the questions have changed and the relationships have changed—the settings in which we look are very different. We contend that the first step in understanding what these changes will mean to teaching and teacher education must begin with dialogue among all stakeholders. We hope that the chapters in this volume will serve as a base on which to begin that dialogue.

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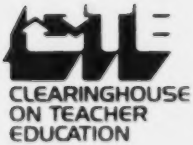

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